

AMERICAN NURSERYMAN

The Nurseryman's Forte: To Make America More Beautiful and Fruitful

APRIL 15, 1938



Viburnum Carlesii

Plants for Wall Gardens
Identifying the Lindens
Planning a White Garden
Moving Trees the Year Around

AMERICAN NURSERYMAN

Chief Exponent of the Nursery Trade

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The practice of taking a cash discount to which the buyer is not entitled is receiving the Federal Trade Commission's attention. The Robinson-Patman act is violated by the purchaser, and possibly by the seller. So the latter should be cautious not to accept the payment as made in full if the discount is not authorized.

PLANTINGS BY W. P. A.

If there be any nurseryman who is not familiar with the extent of government landscape projects and their use of nursery stock, he may get some idea from the article about New Orleans' azalea trail in this issue.

That merely summarizes the plantings made by W. P. A. in one community. Those may be multiplied many times before one realizes how many parks, highways, airports, school grounds and other public places have been beautified with nursery stock through the use of W. P. A. labor.

The public is given some inkling by the preparation of articles such as this for newspapers and periodicals throughout the country, by the information service of the Works Progress Administration. The purpose is to tell about W. P. A., but at the same time the public is being told of the notable improvements made by planting trees and shrubs.

There is a publicity value in these government projects, to nurserymen's advantage, which may not be denied. Perhaps that is one factor in the current improvement in nurserymen's sales in the face of a business recession.

The critics ask how all these plantings are to be tended when the W. P. A. is no more. From the outlook, that is a distant worry, for the boys on relief evidently must be carried some time longer.

In the meantime nurserymen have

the opportunity to sponsor civic projects which will take over the care of these plantings later, so that there may be no reaction on the public by dead trees and overgrown shrubs. Whether we approve of what is being done or not, nurserymen, as beneficiaries of this work, should face the responsibility of seeing that the beautification brought about by government projects should not be temporary, but a permanent improvement in our civic life.

VIBURNUM CARLESII.

Viburnum Carlesii needs no introduction to most nurserymen, but this delightfully fragrant shrub is still little known by the layman and, consequently, is rarely seen in home plantings. If nurserymen will take the trouble to get this shrub before the public while it is in flower, during April and May, it will sell itself, for nearly everyone who sees it and smells it at that time becomes enthusiastic about the plant and wants one for his yard. The pleasant fragrance suggests that of the trailing arbutus and can be detected at a long distance, delighting neighbors as well as the owner.

Experience is proving this viburnum to be hardier than was at first supposed. It has proved dependable at both the Arnold Arboretum, near Boston, Mass., and at the Morton Arboretum, west of Chicago, withstanding temperatures as low as 25 degrees below zero. The shrub is slow-growing, but shapely, developing a broad round form four to six feet high. At a glance, one would say that the flowers are pink, but they eventually become white, opening from pink buds. Not all of the blooms in the rather globular clusters (cymes) open at once; thus deep pink buds and light pink and white flowers are found at one time. The blooms appear with the expanding velvety leaves, as can be seen in the front cover illustration.

Propagation is accomplished by means of seeds, softwood cuttings, by grafting on V. Lantana or dentatum seedlings or by budding on these stocks in July. Since Carlesii forces readily, some enterprising nurseryman might well build up a considerable stock and encourage its use as a potted plant for

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APRIL 15, 1938

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Plants for Wall Gardens

*First of a Series of Articles on the Better Subjects for Garden
Feature Now Attracting Public Interest—By C. W. Wood*

If it is true, as stated by some observers, that the demand for rock garden material is on the wane, we have ourselves largely to thank for the situation. We thought we saw a rich field for exploitation, and we rushed into it with only slight knowledge of the plant material suitable to such uses and little or no appreciation of the niceties of construction. Rock garden specialists have sprung up throughout the country who have no idea of art and little more of plant needs; as a consequence, lawns are disfigured by rock mounds which have no resemblance to anything on earth. And even these eyesores have been so poorly constructed they are little more than a burial place for the plants—a fact that may have suggested the name "cemetery" which some unkind persons use when referring to the monstrosities. There is little wonder, then, if a revulsion of feeling has set in toward rock gardens in general, a condition which will no doubt right itself when we put artistic achievement, which means good construction and correct plant material, among other factors, before immediate profits. That matters will rearrange themselves, giving us an era of real rock and alpine gardening, is a foregone conclusion, because these forms of garden art offer more possibilities, both in breadth of plant material and construction, than almost any other form of gardening. Let it not be thought, though, that the demand for rock garden plants is at a standstill; it is not a business, however, for hit-and-miss methods.

In the meantime wall gardening will bridge the gap between the two

peaks. This is thought by many unobservant people to be a form of rock gardening, but it is really a thing apart, requiring an entirely different technique and a distinct class of specialized plants. The first-named feature, because of its very nature and scope, cannot be covered here, but adequate information is to be had from a few books like "Wall and Water Gardens" by Gertrude Jekyll. The subject of plants for wall gardens is also too broad to be set forth fully, but brief mention can be made of a few of the better ones.

No lovelier wall plants are to be found than the *æthionemas*, all the dozen or more species that I have grown being perfectly fitted for the role. Their distinguishing characters are not sufficiently marked to be stated in words without using a lot of technical phrases, being mostly set apart from the gardener's standpoint by the intensity of pink in the flowers and the blue of the leaves, as well as a slight variation in height of plant. One is quite safe to choose any of the readily available kinds, such as *A. armenum*, *cordifolium* (which is *Iberis jucunda* of most lists), *grandiflorum*, *iberideum*, *pulchellum* and *stylosum*, knowing that he will get a beautiful wall plant that is easily grown in a sunny situation. All species that I have grown resent an acid growing medium and are always best in a limestone soil. All come readily from seeds, which are perhaps the best means of increase, except for the named color forms like Warley Rose, which have to be grown from cuttings. If cuttings are desired, the plants should be sheared at the close of the flowering season,

which will induce an abundance of new growths. These should be rubbed off with a heel as soon as they are large enough to handle and may then be rooted in the usual way.

Everything that was said about *æthionema* could be repeated in this paragraph on *alyssum*, except that the prevailing color of pink in the former has here changed to yellow, and the foliage is generally silvery in the present plants instead of the blue shades of the other. A word of caution should also be uttered, for many of the species become weedy after the first blooming period. I have some rather decided views on the *alyssum* question, many of them no doubt founded on prejudices, for I find many of the kinds which I can scarcely abide to be popular with most gardeners; so I shall not inflict my personal opinions on you who read these lines, but I should like to caution you to give your *alyssums* thorough trial before putting them in the hands of customers. It may save you embarrassment, to say the least. Propagation is the same as in the case of *æthionema*.

Most of the *asperulas* are good wall plants, but perhaps the one of most value at this stage of our adventures is *A. cynanchica*, a rather leafy plant, seldom over six inches in height under dry wall conditions, which produces its small, pink flowers in clouds throughout most of the summer. This is an easily handled plant of a thousand uses, not alone in the wall and rock gardens, but for edging purposes and for mass planting in front positions in the border. It is so easily propagated from seeds and by division and is so

easily grown it might well be made a featured plant at an attractive price in all neighborhood nurseries.

I had intended when these notes were started to include only those plants which are suited to sunny walls, but there are so few really good ones for a northern exposure, I shall also mention the best of these. This change in the program was first prompted by *Borago laxiflora*, one of the few good perennial borages that I have found. It was described in a recent issue and so is only mentioned now as a worthy candidate for a northward-facing wall.

Many of the small campanulas are excellent wall plants, but as I propose to devote two or three issues in the near future to these plants, they are merely mentioned now as a matter of record.

One either likes *cerastiums* or one does not. I do not, so cannot write enthusiastically about them. If you like violent spreaders or have a market for them, *C. argenteum*, *Biebersteinii*, *lanatum*, *tomentosum* and *vulgare* will furnish plenty of material. In my opinion these invading monsters have no place in the rock garden, but I can see a place for them on dry, sunny walls. Propagation is by seeds or division.

Chænorrhinum glareosum, a small violet and white *scrophulariad* from Spain, which is essentially the same as *Linaria origanifolia* so far as we are concerned, is a splendid wall plant, producing its rather large snapdragon-like flowers from spring until winter. In fact, it is safer in the good drainage of a wall, for it sometimes winterkills for me on a flat surface, though it never has in a south wall. The plant makes a tuft of pretty foliage, over which are displayed the succession of flowers on stems not over four or five inches high. It may be increased from cuttings if necessary, but comes so readily from seeds (it self sows abundantly for me) that the other will hardly be needed.

Dianthus: I repeat here what was said under *campanula*.

Practically all *drabas* that I have grown which possess garden value at all are good wall plants, offering splendid yellow or white ornaments in early spring. I have grown more than fifty kinds which I consider good enough for garden use; so you can see that it would be impossible to mention all. Few are readily avail-

able anyway. If one stays away from the few difficult kinds, like *D. alpina*, *aureola* and *bryoides*, which require constant moisture at their roots, little trouble is to be encountered; if one sticks to kinds like *D. aizoides*, a rosette-maker with deep green leaves and bright yellow flowers on 3-inch stems; *D. Dedeana*, with tiny rosettes suggesting a small *azoides*, but with pale yellow flowers; *D. fladnizensis*, with large, white flowers over gray rosettes (same as the plant in the trade as *D. androsacea*); *D. repens*, which is not a rosette-maker, but spreads widely along rock crevices by means of stolons, producing a mat of pale green leaves and a cloud of bright yellow flowers in early spring. I have saved *D. Haynaldii* until the last because it is an easily grown alpine, which we are going to hear a lot about in the next few years. It is just now getting into European and American trade (I notice one American seedsman is offering the seeds this year at 75 cents per packet) and is making a favorable impression on all sides, being listed as one of the outstanding novelties in England. It will not be necessary to go into detail about the plant at this time (it has been described twice in these columns during the six years or more that I have grown it) and is mentioned at this length so that growers will be apprised of its presence and will be ready to seize it when the opportunity presents itself. All these *drabas* are as easy as radishes from seeds.

Erinus behaves for me in about the same manner as *chænorrhinum*, often winterkilling on the level, though it seldom ever does on a south wall. *E. alpinus*, the kind most often met, is a splendid wall plant, as is the Pyrenean form, *E. hirsutus*, which has flowers of a much deeper color than the rosy carmine of the former. There is also a crimson-flowered form of *E. hirsutus*, which would no doubt be desirable if we could get it. There are also white-flowered forms of both species, though they seem less effective to me than colored kinds. All these liver-balsams are showy in the wall, blooming profusely for about two months, commencing in May in northern Michigan, and are easily grown from seeds.

All the *erodiums* mentioned in a recent article in these columns are

excellent plants for the purpose now under consideration. Kindly refer to that issue for further information.

Three precious little *geraniums*, *G. argenteum*, *cinereum* and *sanguineum lancastricense*, are among my favorite wall plants, blooming over a long period and supplying pleasing foliage effects for an even longer time. That is particularly true of the first-named, which in its best forms of intensely silvered leaves and tender pink flowers on 4-inch stems, which are produced throughout most of the summer, makes a plant of surpassing value for any part of the garden where its need of good drainage and sunshine can be given. Just a little less silvery, though a trifle taller, is *G. cinereum*. Both these kinds are readily grown from seeds, but the progeny vary much in flower color and texture of foliage, so that it is necessary to resort to vegetative reproduction when it is desired to propagate selected forms. That is quite easily done by pulling each tuft away from the main root with a piece of the latter attached and rooting them in a close frame. This work should be done in early spring, according to my experience, just as new growth starts. Instead of the 12-inch stature of type *G. sanguineum*, variety *lancastricense* grows no taller than three inches and produces its soft rose-pink flowers over the usual long *geranium* season.

(To be continued)

VIBURNUM CARLESII.

[Concluded from page 2.]

the spring holidays. With its delightful fragrance, this *viburnum* should take with pot plant buyers.

Fragrant *viburnum* is the common name that has been applied to *Carlesii*, and although this is truly descriptive of the shrub, it is in a way unfortunate, because *V. fragrans* is now coming to the fore and will naturally become known by the English form of the Latin specific term, *fragrans*. Thus it might be well to popularize *Carlesii* under the common name of *Carles viburnum* or Korean *viburnum*, since it comes from Korea, being introduced in 1902. The flowers of *fragrans* closely resemble those of *Carlesii*, but appear before the leaves. This lesser known shrub was not introduced until 1915.

Identifying the Lindens

Fifth in Series of Articles Discusses Characteristics of the Red Linden, Tilia Rubra—By Leon Croizat, of the Arnold Arboretum

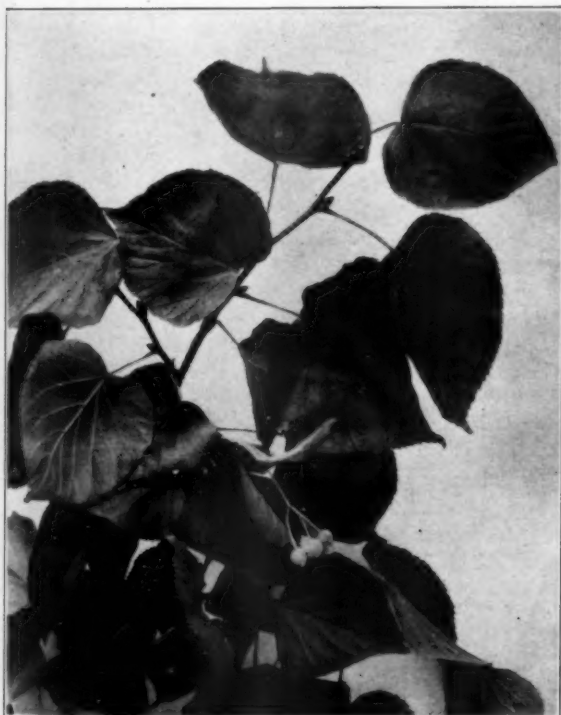
In the issue of March 15 of the *American Nurseryman* I briefly discussed the common linden, *Tilia vulgaris*, comparing it with the species that are not its closest relatives. It is time now to study the red linden, *Tilia rubra*, comparing it particularly with the common linden, which it closely resembles.

To draw up in plain words a satisfactory comparison between the red and the common linden is a difficult task. The difficulty begins in finding a pertinent answer to the question, what is the red linden? *Tilia rubra* is essentially native to the Caucasus, in southern Russia, but forms that cannot be separated from it except by using an involved botanical nomenclature live in Asia Minor, Greece and Bulgaria and occasionally reach southern Germany through Hungary and Austria. The full extent of the possible difference among these forms can be appreciated by comparing the specimen shown in the illustration on this page with the variety illustrated in my article in the *Journal of the New*

York Botanical Garden of October, 1936, page 227. To discriminate among these amazingly complex and variable forms I should write a long and necessarily technical article, taking account of varieties which, like the one illustrated in the *Journal of the New York Botanical Garden*, are found only occasionally in cultivation. I am satisfied that it is a better counsel to analyze here only the form of the red linden which is common, often very common in cultivation, and can most easily be confused with the common linden. This commonly cultivated form of *Tilia rubra* is the one pictured here together with *Tilia vulgaris*, these illustrations being repeated from the March 15 issue for the sake of easy reference in the course of the present article. It is to this common form that I make reference in the course of this article, and to no other.

In my preceding article I emphasized that the red and the common linden differ in habit. The red linden, when mature, is pyramidal because the trunk breaks up in several

to many, usually scattering, main leaders. The common linden, on the contrary, is columnar because the trunk divides in no more than two or three fairly straight main leaders. Speaking of the trunk that "breaks up" I should care to specify that "breaking up" in the case of the red linden is not the same process that "breaks up" a shrub like philadelphus or forsythia. In the red linden, as well as in other lindens, the trunk sends off numerous branches, untrimmed specimens usually branching almost on a level with the ground. The point worth remarking is that in the red lindens the largest branches tend to grow in length and girth until they are, in time, as big as the main leader itself. In the common linden, on the contrary, the main leader and the two or three main limbs that grow almost parallel with it are larger than the side branches. This difference is more or less noticeable, depending upon the trees' growing in the open, or being drawn up by



Tilia vulgaris.



Tilia rubra.

other trees. I have reason to believe that the red linden that grows in poorer soil is a more open and more widely branching tree than the one that thrives in favorable ground. Regardless of individual or occasional differences of the kind, however, the difference in habit that I have outlined persists. It may seem trifling on paper and perhaps a bit difficult to grasp, but once it has been noticed it is not forgotten. I have had the occasion of pointing it out in the past to classes that were none too well acquainted with the fine ends of the dendrological art, and they saw the point without trouble.

Aside from the habit, there are numerous other differences between the red and the common linden. Some of these differences can be seen in the illustrations that accompany this article. For instance, the bud of the red linden is less pointed, stubbier and slightly shorter than that of the common linden. This can be noticed by comparing the bud next to the tip of the twig of *Tilia rubra* with any of the buds of *Tilia vulgaris*. The year's growth zigzags more evidently in the common than in the red linden. Judging from the illustrations, the reader will take my word, I believe, that the leaves of the red linden are firmer, stiffer and rounder than those of the common linden. The veinlets of the leaf of the red linden can be seen also to be more sharply outlined than those of the common linden.

A very opportune moment to sort out the red from the common linden in places where the two, as it frequently happens, have been confused and planted together is blossom time. The plants that stand out having whitish delicate flowers and do not abundantly bloom can be chalked down as likely to prove to be *Tilia vulgaris*. To the red linden, on the contrary, belong masses of yellowish compact flowers. In the respect of blossom the red and the common linden differ so markedly that along certain avenues (e. g., the Grand Concourse in the Bronx, New York) the trees of either species can be recognized while one is driving at average speed. Next to blossom time, which comes about at the end of May or at the beginning of June, the best moment to spot these lindens is the month of July. *Tilia vul-*

garis, like most hybrids of ornamental trees, ripens few fruits. *Tilia rubra*, on the contrary, is next in fertility to *Tilia cordata* and is anything but barren. July, and not June, is the best month because in the latter month some half-ripe fruits are apt to linger on the common linden, which a little later fall to the ground. The difference in color, size and amount of blossom that sets these two lindens apart is a first-rate element of identification, effective in four cases out of five. I may mention here that hybrids that have not been purposely standardized occur in cultivation in many forms, and that a character of identification that is effective in four cases out of five is as nearly iron-clad as any that may be wished for.

Summing up, and adding a few other significant differences, the score between the red and the common linden can be tabulated as follows:

(a) Bud—Rounded in *Tilia rubra*; pointed in *Tilia vulgaris*.

(b) Year's growth—Straight or nearly straight in *Tilia rubra*; zigzag in *Tilia vulgaris*. In winter the twig of *Tilia rubra* is purplish or brownish throughout; that of *Tilia vulgaris* green (to be precise, apple green) beneath.

(c) Leaf—Firm, mostly pea green and rounded, with sharp veinlets in *Tilia rubra*; comparatively thin, dark green, mostly longer than broad, with weak veinlets in *Tilia vulgaris*. When one is standing at the foot of a tree and looking at the leaves against the light, the veinlets generally can be seen distinctly if the tree is *Tilia rubra*, dimly or not at all if the tree is *Tilia vulgaris*.

(d) Hair—The margin of the leaf is hairless soon after the leaf unfolds in *Tilia rubra*; fairly closely beset with straight hairs, at least until middle summer in *Tilia vulgaris*. This character of identification is the one that I have found best. It should be tested on several leaves taken from different parts of the tree, as in *Tilia vulgaris* leaves are occasionally scantily hairy.

(e) Fruit—Grayish or rusty brown, mostly ripening in *Tilia rubra*; grayish, seldom achieving maturity in *Tilia vulgaris*. Occasionally forms of *Tilia rubra* are met in cultivation in which the fruit is ribbed, and much like the fruit of *Tilia platyphyllos*. I mention this

fact rather for the sake of the record than because I feel it is necessary to emphasize its occurrence. The forms of *Tilia rubra* that have ribbed fruits can be properly identified only by specialists.

(f) Bark—Brownish to reddish brown in *Tilia rubra*; grayish brown in *Tilia vulgaris*.

(g) Habit—Pyramidal in *Tilia rubra*; columnar in *Tilia vulgaris*.

There is abundance of good characters, the reader will admit, that can be used to separate the red from the common linden. This notwithstanding, I should like to suggest that nurseries which handle *tilia* maintain as a permanent fixture of their grounds two or more specimens of the red and of the common linden. Good plants with standardized names located at the right spot will do more to promote the knowledge of these difficult *tilia* than whole sets of illustrated books and long technical and popular descriptions. Material which may be submitted to my attention by readers will gladly be inspected, and the necessary steps will be taken to return precise identifications.

I do not believe that the commonly cultivated form of *Tilia rubra* can be confused with any linden other than *Tilia vulgaris*. This common form differs from *Tilia platyphyllos* in hairiness and in fruit, being hairless at the new twig and at the leaf soon after the first outburst of spring growth; the fruit is easily crushed by hand and is scarcely ribbed. *Tilia cordata* is wholly unlike *Tilia rubra* in fruit, flower, color of bud and, particularly, in texture of leaf. In some cases I have seen the glossy linden, *Tilia euchlora*, mistaken for *Tilia rubra*, which is hardly excusable. It is true that the leaves of these two lindens have texture and, in part, general aspect in common, but the color of the bark in itself is sufficient to establish the correct identification. The glossy linden, of all commonly cultivated *tilia*, has the whitest bark, this being lighter even than the bark of *Tilia platyphyllos*. Occasionally, forms of *Tilia rubra* are found in cultivation which, to judge only from the leaf, strongly suggest the American linden. These forms, however, have the comparatively close branching habit of their species, never the loose and somewhat ungainly aspect of the American kind.

Planning a White Garden

Composition of Special Type Told in Recent Radio Broadcast—By Ben Blackburn, New Jersey Extension Specialist in Landscape Gardening

Within the past twenty years while gardening has grown so immensely popular in this country, many special types of gardens have come to be used as adjuncts to the principal one. Rock and alpine gardens, wild gardens, lily gardens, and gardens featuring particular color combinations and single colors may be named in this list of special types. Only in particular cases should these be the principal garden in the home grounds plan—though when the gardener is a specialist in a field it is quite conceivable that he take this position. Usually, however, such gardens are seasonal in their display, or their very nature suggests that they be used as supplements to the principal garden and not be in view all the time.

The white garden is best considered in this category. It is most successful when one comes upon it unexpectedly, and it should be viewed only occasionally rather than many times during the day, as the principal garden may be. When skillfully planned, it will be dainty and lovely, and a white garden has a cool freshness about it that is pleasant on a hot day. So many of the white flowers possess beautiful scents that planning for fragrance is important, and as flower fragrance is usually at its height in the moist air of evening, the white garden commends itself in particular for a spot that is enjoyed at that time of day. The luminous quality of white blooms fits in perfectly with this design; I am sure you can call to mind how strikingly white bands of sweet alyssum outline flower beds at dusk, and how white foxgloves, peonies, galtonias and fragrant nicotianas stand out with spectral beauty on spring and summer nights.

An enclosed nook which one comes upon unawares—perhaps a secluded pocket in the plan which acts as a terminus for one of the axis lines of the main garden—or a small space framed by dark glossy-leaved shrubs and shaded by over-arching trees, can be developed as a white garden of great distinction. It should be handled in the formal

manner. Certainly nature has no patience in limiting the blooms in her plantings to one hue, and I am inclined to wonder if we mortal gardeners are attempting too much when we limit them to one color. Be this as it may, the idea of using only white flowers imposes a strict convention at the beginning, and the plan of the white garden should conform to this elected formality.

It is advisable to have a regular grass plot in the center—a green carpet of circular, square or rectangular outline. In the classical white garden created at the International flower show last month by George Gillies, gardener for Mr. and Mrs. Marshall Field, the grass area was baluster-shaped and the pleasing contours of lawn and borders led one's eye to the beautifully draped statue which formed the terminal feature.

There may be a temptation to include central flower beds in the plan, but these should be approached with caution. They would have the tendency to make the effect confused and cluttered unless handled with great restraint and planted with low plants which would not obscure the design. When central beds are used, it is important to edge them with some low wintergreen plant, such as Phlox subulata The Bride, stachys, evergreen candytuft or small plants of Dwarf box, so that irrepressible annuals do not cause the neat formality of a geometrical plan to be lost. These edging plants mentioned also lend great winter interest to garden beds and make the bare soil at that season seem as unobtrusive as possible. In most cases, however, it will be desirable to keep the flowers at the edges, in neat borders framed by the background planting so that they may be seen to fine advantage from the central panel of turf.

Aside from the background of woody plants, variety in the white garden must be achieved principally by the flowers themselves. This is done by careful handling of the masses of the flower plantings so that an interesting outline is obtained. Low dense masses, such as

those just mentioned, naturally edge the flower border itself, and behind these dense intermediate mounds of such white-flowering annuals as godetias, linarias, petunias, stocks, snapdragons and balsams may be arranged. After these two outer ranks we are ready for taller materials, both annuals and perennials, perhaps, and there are a few important and lovely biennials that cannot be disregarded, such as white Canterbury bells and foxgloves. The taller flowers can give much interest if some of them are graceful and airy in appearance, and this lightness will contrast well with the more massive nature of the lower plantings. Columbines, platycodons, Anemone japonica and Euphorbia corollata can start this light and airy effect in the middle of the border, with Artemisia lactiflora, summer hyacinths, bocconias, white hollyhocks, lilies and thalictrums concluding the effect at the back.

Variety can also be obtained by using flowers of different qualities of white in contrast with each other. Many flowers we classify as white have a good deal of blue in them, others have yellow, and a large number are actually green white. These softer whites can lead up to the cold clear whites, which with their chaste marble-like quality serve as highlights.

Plants with white flowers and glaucous foliage prove pleasing for accent and contrast. Stocks, bocconias, some artemisias, cerastiums, sheep's-ear, dusty miller and other centaureas, and yuccas are some of the flowers of value on this count. For plants to furnish commanding accent, the majestic eremurus; summer hyacinth, Galtonia candicans; Formosan lily, Lilium philippinense formosanum, and the native black snakeroot, Cimicifuga racemosa, are valuable. For plantings in full sun, yuccas with their sumptuous yellow white spires are handsome, and if lower accent plants are suitable, Madonna, Sargent and regal lilies may be added to the list.

The hardy annual nicotiana must be included for its enchanting fragrance after sunset, and white pe-

tunias, peonies, white plantain lilies and tuberose can hardly be omitted. Tuberose, of course, are tender cormous plants, and also in this class which requires winter storage is the striking ismene, popularly called Peruvian daffodil and basket flower.

The enclosure for a white garden must be planned with particular care. With no background at all, plantings of white flowers show off to even poorer advantage than colored ones. As the white garden is typically conceived as formal, one of the first requisites of a formal garden—that it be enclosed—applies with particular force.

As in all garden plans, green plays an important part in the white garden, and if the fact were to be honestly stated, we should call it a green and white garden. We are prone to overlook green, and in all truth we owe it a great deal. We depend on green for the mass and solidity of plantings, and the most studied and delectable combinations of flower colors usually need a backing of green to serve as a foil. In fact, when the color harmony is not quite above reproach, often the presence of green results in a measure of arbitration between the questionable hues. In this connection, why should not a garden that is a white one in summer become a green garden in winter?

To furnish adequate setting for the flower border, the shrub background should be at least as tall as the most aspiring flowers, and it will be well to have it seven or eight feet in height. Hardy shrubs with dark and shining foliage are usually considered best, as against these the silvery, pearly and gray whites of the flowers stand out with finest effect. When a conventional plan such as I have outlined is adopted, a clipped hedge will often be the best means of supplying the requisite dense background, especially when the space available is too limited to use a less formal treatment of natural growing shrubbery. For a hedge, buckthorns and privets can be recommended for inexpensive materials—glossy buckthorn, *Rhamnus frangula*, and Amur privet, *Ligustrum amurense*, for severe climates, and the superb glossy privet, *L. lucidum*, which will be evergreen and usually hardy south of Baltimore.

The most magnificent foil for white flowers would undoubtedly be

the green wall of a yew hedge, and either Japanese yew, Hicks' yew or any of the newer upright hybrid forms would be ideal. The Wellesley and Hatfield yews promise to be superb for hedges, and the gardener could set small plants of these and enjoy seeing them fulfill the plan, though it would not be a rapid process. Canada hemlocks, of course, make a splendid clipped hedge and one which is not a long period of time in attaining perfection.

In addition to the buckthorn and the privets mentioned earlier, a handsome deciduous hedge would be furnished by English hawthorn or may, *Crataegus oxyacantha*. This would have the extra value of giving some fragrant white flowers, although clipping results in reduced flowering.

For a less conventional enclosure than a clipped hedge, a shrub border of sufficient height and density would prove interesting and aid in producing white blooms if this is desired. Other small trees of the hawthorn group which should be mentioned are the cockspur thorn, *Crataegus Crus-galli*, and frosted thorn, *C. pruinosa*. These have much to commend them. The fragrant summersweet or monk's pepperbush, *Clethra alnifolia*, native from Maine to Florida, is a capital subject for soft billowy masses of growth, and its spicily fragrant clusters of white flowers from July more or less through the summer are a prize for any garden. *Clethra* takes well to pruning and shaping, and though a few suckers may need to be removed now and then, its roots are not troublesome.

Also excellent subjects for the mixed background of white-flowering shrubs are two more natives, *franklinia* and *stewartia*. Both require abundant moisture throughout the year, and their lovely white flowers, measuring two and one-half to three inches across, are borne late in the season. Those of a well grown specimen of *franklinia* start in late August and continue till frosts. This superb tall shrub has been much publicized in recent years on account of its unique history as much as for its rare beauty. The Philadelphia botanist, father of American botany, John Bartram, discovered it in one restricted locality on the banks of the Altamaha river, in Georgia, in 1770, and he introduced it to cultivation. Plants were sent to Europe and at least one was estab-

lished at Bartram's botanic garden outside Philadelphia. In 1790 Bartram revisited the Altamaha country with his son William, and they made further collections of the striking plant. This is the last recorded date that *franklinia* was seen growing wild, for repeated visits and painstaking botanical surveys have revealed no trace of it. Some catastrophe wiped out the entire wild stand, and garden lovers of today are indebted to the specimen in Bartram's garden for their enjoyment of this historic plant. Scientifically, this tall shrub or small tree is known as *Gordonia alataamaha*, and its common name, *franklinia*, commemorates the American patriot.

You may well feel that I am leaving the boundary or enclosing plantings of the white garden far behind, but I shall return with no more wandering: *Philadelphus*, *deutzias* and *spiraeas*, of course, with their lavish cascades of white flowers early in the season, should be considered for the informal border enclosure, and so should all the white lilacs. For this type, also, the evergreen foliage of Japanese holly, *rhododendrons*, *andromedas*, mountain laurels and drooping *leucothoës* are fine. This list embraces more appropriate associates, of course, for the serene dignity and beauty of white flowers than some of the more rapid-growing and inexpensive hedge plants mentioned before.

On these elements—central lawn, carefully planned flower borders and dense enclosing shrub walls—the white garden depends for its success. Remember, too, that it should not be seen too frequently lest its charm and reserve be diminished. As a surprise garden beyond the principal one, possibly as a garden niche looked into from one room of the house or one end of a terrace, it will be delightful and refreshing.

OUT of 1,255 trees planted on the site of the New York world's fair it is reported only four have died.

WHEN a business enterprise contemplates the adoption of a public relations program, there is usually something wrong with its relations with the public. For the ordinary business man, a public relations program is the way he treats his customers. So long as he exerts himself to please them, public relations experts are not needed.

Moving Trees the Year Around

Methods of Handling Big Trees by Which the Planting Season Has Been Much Extended, Told at Ohio Short Course—By M. G. Coplen, Rock Creek Nurseries

I am often asked the question, "When is the best time to plant a tree?" I have to answer, "I don't know."

I do not agree with the encouragement which so many landscape men and nurserymen give to the buyers in regard to the so-called planting seasons for ornamental trees. I am perfectly willing to admit that the digging and replanting of a tree is for the tree a major operation, but there is no reason why a nurseryman who realizes that trees are living things and treats them as such should put off the operation until some certain time of the year. Should the nurseryman himself need an operation, I am quite certain that his surgeon would do it on short notice and at any time of the year. Are we to consider the tree as being of a more highly organized and complicated structure than that of a human being? I believe that practically all varieties of trees, if in a thrifty growing condition, taken from suitable soil and exposure, can be successfully transplanted at any time, if the operation is performed with skill and a reasonable amount of judgment is shown in after care. Even those which we have considered difficult to transplant in the past while in a dormant condition, we now transplant with little fear of loss while in active growth. In fact, our losses with trees planted out of season during the past eight to ten years have been no greater than with trees planted during the so-called best seasons for planting.

I first became doubtful of the dormant season of early spring and late autumn and winter as the only safe time to plant trees after visiting a nursery on Long Island in 1913, where I saw Norway maples being moved in full leaf. For a few years after this trip I moved sizable trees, some while in active growth, by combing out a large area of the roots and leaving a small ball. Our success was just enough to keep us trying to move others from time to time, mostly in haphazard fashion, using various and sundry kinds of homemade equipment.

During this time, I learned it was easier to sell shade trees at a good price when the weather was hot, if we could only transplant them and give some assurance that they would live and grow. In trying to analyze the cause of our failures, I concluded that the trees died mostly from decayed roots caused by bruises while being combed out (looking back on it now, I believe it was more likely to have been deep planting and lack of drainage). To correct this, we began digging with larger balls and combing out the fine roots, moving only as a ball such soil as clung to the roots. The tree was loaded on a platform or tree-mover by attaching tackle and equipment to the trunk of the tree, which, quite often, owing to the weight of the ball, sprung the bark and bruised the trunk of the tree. These bruises were slow to heal and caused some losses, as customers considered the tree disfigured by careless handling; this happened oftener when the sap was flowing freely.

After bruising the bark of a large elm tree for a good customer of ours, I thought of discontinuing big tree moving. This customer suggested that I give a little serious thought to tree-moving equipment in general and for his work in particular, as he would have more good-size trees to move from time to time. After I had talked with various people and reviewed our past experience, it seemed entirely possible to move good-size trees of certain varieties at almost any time of the year without trunk injury if we practiced certain careful methods and had equipment designed to handle trees by the ball only.

As some of our soils are light sandy loam and often wet, it was especially essential to have a platform to protect the bottom of the ball while loading and in transit over rough roads, and a way to raise and lower the tree in the hole and set it in an upright position to an exact grade before removing the machine.

We could not buy a machine which answered our purpose, and as I was becoming more interested in out-of-season planting, I decided to

develop a new machine, using part of a machine which we had discarded a few years ago. The machine we now use suits our purpose well. We can move trees dug with a solid ball without attaching any gear to the top or trunk of the tree (the lift is distributed over the bottom of the ball). Trees which are branched to the ground may be loaded without flattening one side of the ball to fit the mover.

If necessary, the sectional platform for all practical purposes becomes part of the mover. The machine can be taken from the hole either forward or backward without hand guidance. The tree top can be raised or lowered in transit for clearance of low limbs and wires or for better distribution of weight. It can be used as a single-axle trailer for long hauls. The tree can be raised or lowered as often as necessary to obtain exact grade and can be set approximately in the same position as in the original location before being removed from the machine.

The depth of planting is to me vitally important in the future growth of the tree. A tree which is planted a little deep may not die; trees which have been planted as much as eighteen inches deep exist for years, and some finally throw out a new root system close to the surface and again become a vigorous-growing tree. There is a great difference between trees which grow and trees which grow and thrive. When I see a tree which is not thriving, the first thing I want to know is how much soil is over the roots. Deep planting in many trees will delay putting out foliage in the spring as much as ten days and retard the development of caliper to as much as one-third as compared to an adjoining tree. When such stunted trees were dug up and planted higher, in two years' time the foliage appeared at the same time and was of equal color and size as that of the trees which had been planted high.

When trees which had been planted high were taken up and set deep, they showed a decided tendency the first year to delay the time

of putting out foliage. Since the transfer of these trees, the trees which were at first of the smaller caliper, from the effects of fill, are now of larger caliper.

As I stated before, we find it easier to sell shade trees when the leaves are on the trees, as the prospect can more readily visualize how a certain tree will look in his grounds, and he will also feel, if the day is hot, the actual need of saving twenty or more years in getting much-needed shade for his home. If the cost is distributed over the number of years saved, the prospect can be shown that large trees are not expensive when the time saved and the effect obtained are taken into consideration, especially when one is 40 or more years old. A customer who wants to plant a thrifty tree of a variety which is suggested for the place is much more desirable than one who insists upon a picturesque, old or stunted tree.

We usually suggest elms, pin oaks, maples, lindens and willow oaks, as they are available in sizes from six to fifteen inches in caliper and can be transplanted at any time with success. We have transplanted larger ones, but doubt whether it paid the nurseryman or the customer. The liability of getting a tree which is past its thrifty growing period is to be considered. The hazards of low electric wires, weak bridges, drivers who will take chances and the disposition of some traffic cops can do all kinds of things to the profit figured into the job. Another thing which takes profit from the job is a feature which has been neglected by many nurserymen or tree movers, and that is the cost of selecting the tree. There are many features which the conscientious tree mover will take note of which have a bearing on the cost before he gets the customer's name on the dotted line—the miles and miles which he drives to get a tree for some particular effect, the visit to the site where it is to be planted, the sampling of the soil with an earth auger and the difficulties presented when the tree is in a congested area.

From our experiences during the past ten years, we are inclined to believe Chinese magnolia, tulip poplar, sweet gum, dogwood, hawthorn, white oak and beech trees can be more successfully handled during the

periods of active root growth, in the spring until the leaves are fully grown and early in the autumn soon after the growth hardens. Broad-leaved evergreens, such as holly and magnolia, thrive best for us when planted late in May or the early part of June, when almost everyone thinks it is too late. If you do this work at that time, just as the new leaves are starting and the old ones have begun to shed, you are as safe in planting them as though they were elms or silver maples.

We have transplanted during the summer months, among others, the following trees: White oak, American and copper beech, sweet gum, tulip poplar and willow oak ranging from eight to nineteen inches in caliper and one persimmon tree forty feet in height; they have thrived as well as, or better than, the same varieties planted while in a dormant condition.

It is desirable to select trees growing out in the open, in well drained heavy loam or clay soil; trees which have a dense head, that can be thinned out and still retain their shape, are the trees preferred. Those which are in a crowded location and are moved into an open one invariably lose some of their lower limbs; also, trees moved from a dry loca-

[Continued on page 21.]

D. BARRETT COLE.

D. Barrett Cole, who this year became president of the Ohio Nurserymen's Association after a term as vice-president, assumed direction of one of the largest nurseries in the country at an early age. Born in 1898, he began summer vacation work in the nursery of his father, W. B. Cole, winding buds in the budding fields, at 11 years of age. During his school life he worked steadily through vacations and after school hours in every phase of the business. He attended Denison University, at Granville, O., taking a general college course. In 1918 he began full-time active duty in the nursery fields. In 1925 he left the fields, storage and propagation work to take up sales work and general office duties. In the autumn of 1932, after the death of his father, he was chosen general manager of the company.

His father was an exceptionally active nurseryman from youth till his

death in 1932, building a nursery from scratch to what was considered prior to its incorporation as the largest one-man nursery in the United States. The Cole Nursery Co. was incorporated in 1923, at which time D. Barrett Cole became secretary, which office he still holds.

Mr. Cole's estimate of the nursery business is at once critical and optimistic. He says:

"In the period that I have been actively engaged, there has been great prosperity and great depression and some normal times. It sometimes seems there are less rewards for the energy, ability and work expended in a nursery than in most other businesses but, after all, nurserymen seem to be well repaid in health and happiness. They live on the land, they enjoy the outdoors, and they are always building beauty and health for the general public. Theirs is the joy of living and creating. Nurserymen have a host of friends.

"The thing that seems to be needed in the business, and no doubt this is true with every business, is sound level-headed men with good judgment. Such men make business hum and carry with them security for their business and industry. We should be seeking men of this caliber, and if they could be developed or enticed into the nursery business it would be found that our individual and collective businesses are simply in their infancy. The potential market and possibilities are unlimited."



D. Barrett Cole.

Heavy April Snow Aids Nursery Sales

Checking Unseasonably Warm March Weather and Adding to Desired Soil Moisture, Snowstorm Improved Season's Good Prospects, According to Reports from Several States

Interruption to digging and shipping of nursery stock by a snowstorm of nearly record proportions in a dozen states from Colorado to Massachusetts, April 5 to 8, was more than offset by the benefits it brought in added soil moisture and in checking unseasonably warm weather of March.

High temperatures in some parts of this section had started early shrubs into leaf so that nurserymen feared an all too short digging season. The heavy snow generally protected the budding plants from injury where the temperature went below freezing later, so that the damage to growing stock was not serious. Delay in getting out orders only amounted to two to four days at most, as the snow promptly melted. The cooler weather that has followed makes a long planting season more hopeful.

In the western states where droughts have been prevalent, the heavy fall of snow was welcomed. The additional moisture is an encouragement to farmers and home owners in planting more nursery stock.

Gains in business in the western territory are more notable than in the east, where some nurserymen report they will be satisfied if sales hold up to last year. Reports from various localities received as this issue goes to press tell the varying story of the storm's effect and of spring business.

"From three to eight inches of snow fell, accompanied by freezing temperatures," reports Chet G. Marshall, of Marshall's Nurseries, Arlington, Neb. "The storm held up sales for about four days, but there was not much injury to vegetation, and the moisture was appreciated. Wholesale business is about twenty-five per cent ahead of last year, retail twenty per cent and landscape orders about the same. Prospects for spring are fair, as moisture conditions have improved, but buying power is still limited on account of several crop failures in much of this territory. We are the 'white spot' of the nation, however."

"Snowstorms worked great circles in the states around us, but we continued to dig trees all last week," writes E. C. Hilborn, general manager

of the Northwest Nursery Co., Valley City, N. D. "The ground is in good condition, and the weather is excellent. Business looks fairly good this spring; at least, we are pleased with the twenty per cent increase to date over a year ago. While our local customers have suffered from continued crop failures and the mining districts of Minnesota have suffered from the Roosevelt depression, our outlying districts have done better. We find a definite increase in interest in planting, and if real recovery ever gets under way, none of us would know how to handle the trade. The early opening of spring may mean an early dropping off in business, but if the national enthusiasm which has just started at Washington continues, we shall all line up strong."

Snow nearly a foot deep and a drop in temperature to 12 degrees at Denver was actually a help materially in lengthening the season, according to C. C. Wilmore, because it had previously advanced so rapidly. Business with his firm is about even with last year, retail and landscape sales being up and wholesale business down. The better nurseries in the territory are doing ample business at good prices, but more evidences of price cutting are apparent than last year.

The snow did not reach so far north as Faribault, Minn., according to C. H. Andrews, of the Andrews Nursery Co., and the spring outlook now depends upon the weather. Moisture would help, but a fairly good season is expected if warm weather comes on slowly enough to prolong the planting season.

A heavy snowfall April 5 was reported by C. C. Smith, of the Sherman Nursery Co., Charles City, Ia. "Our local weather station reported moisture content of a little more than one inch. We were needing the moisture and glad to get the snowfall, though it did handicap our digging for three days. We are pleased to report a good gain in all departments. It looks as though we should wind up our spring season with an increase of thirty to forty per cent over last year. I believe all nurserymen here in the central west are doing a good

business this spring. The moisture we have now received over several states will be a big factor during the balance of the season."

Seven inches of snow fell at Ottawa, Kan., and prevented shipping for two days because trucks were stalled, according to J. A. Pinney, of the Willis Nursery Co. The combination of heavy, wet snow and a 57-mile wind at McPherson, Kan., broke down evergreens. He reports the business of his firm, which is entirely wholesale, to be considerably ahead of last year. The season, nearly over now, has been busier than for several years.

While seven inches of snow fell in Chicago, it did not reach Princeton, Ill., according to Miles W. Bryant, of Bryant's Nurseries. The storm hit April 6 in the form of sleet, though two inches of snow fell April 8. Damage to trees was not serious. "The most serious handicap this spring was the unseasonably hot weather the last two weeks in March. Frost was not out of the ground until March 10 or 12. Within a week south winds ran the temperature up to 70 degrees for about ten days, so that early-starting shrubs almost got away from us. For the past two weeks the weather has been quite cool, but fortunately fruit trees had not made enough start so that the crop had been damaged. Sales to date have been much better than the two preceding years, though the earlier season undoubtedly had considerable to do with this. Whether retail sales hold up for the season will undoubtedly depend largely on weather conditions from now on."

The snowfall was lighter in Indiana and disappeared the same day, and the slight freeze that accompanied the storm brought no injury to nursery stock though some damage to fruit. Early precipitation in the form of rain made this one of the most difficult seasons for handling stock experienced at the nurseries of C. M. Hobbs & Sons, Inc., Bridgeport, Ind., according to President Harry W. Hobbs. As to current business he says, "Sales, both wholesale and retail, at this time are about thirty per cent ahead of the same time last year, but we attribute the gain to the two

weeks advanced season and do not expect later sales to equal those of last year. We believe, however, this spring's business, at the end, will about equal last year in sales. Orders in general have been more numerous, but not so large as usual. Interest manifest in our products is gratifying, but general conditions retard sales that would otherwise be made."

To the north the snow was likewise absent, though freezing weather visited Madison, Wis., and W. G. McKay, president of the McKay Nursery Co., writes: "Stock was not damaged sufficiently to cause any injury. The fact is the cold spell was a godsend, for it gave us an opportunity to get some of our digging done before too many customers asked for delivery. Sales this spring are ahead of a year ago, both retail and wholesale. As we are having quite an active wholesale demand in this territory, we are inclined to believe that energetic, hustling nurserymen are doing satisfactory business. Our season is about two weeks ahead, and we have been able to conclude a considerable amount of our planting in our nursery."

Snow fell near Detroit to a depth of four or five inches, but only slowed up sales for a couple of days, according to Harry Malter, of the Greening Nursery Co., Monroe, Mich. Wholesale business is ahead of last year, but landscape business has not shown the same gain.

In New York state about four inches of snow fell, followed by freezing temperatures, and shipping was held up. Wholesale business is slightly better than last year, and nurserymen see favorable planting prospects. The sentiment is that recent events at the nation's capital may still have a beneficial effect on business this spring.

The effect of the storm was slight in New England, a little snow falling in Connecticut, where Charles S. Burr, of C. R. Burr & Co., Manchester, reported it was of no effect. Both wholesale and retail business is ahead of last year for this firm, and prospects are quite good in that section.

No snow fell at the Bay State Nurseries, North Abington, Mass., though the temperature was about freezing. Donald D. Wyman reports sales so far running about even with last year and the prospects quite favorable.

LILACS FOR THE NORTH.

Lilac time has become increasingly significant in the colder states and Canada with the advent of the new *Prestoniae* hybrids, which carry the blood of two nonsuckering species, *Syringa villosa* and *S. reflexa*. The new types retain the advantage of freedom from root suckers, and they supply a wide range of color effects. Blooming a fortnight later than the French hybrids, they generally entirely escape frost injury. Some notes on these northern lilacs by W. R. Leslie, superintendent of the Dominion experimental station at Morden, Manitoba, in a recent issue of his weekly newsletter are of interest.

"Seedlings selected at Morden as second filial generation from Ottawa crosses have been accorded names as follows: Royalty, deep purple; Coral, clear fresh pink; Nocturne, hazy lilac blue; Redwine, rich wine red. The first was named in 1935, the other three in 1936.

"Swanee is the sister seedling to be named in 1937 at the Morden experimental station. It was formerly designated 35-4. The bush is round and neat, and bears large numbers of upstanding dainty spikes of flowers. Their color is white somewhat flushed with pink in the early stage. The pink fades and the general effect for many days is of a compact bush made airy with billows of white blossoms. Noteworthy is the sweet fragrance of the flowers.

"In point of fragrance, Swanee and Royalty have surpassed the other three. Redwine has the odor of the *villosa* parent, which is not pleasant to some people.

"The *Prestoniae* lilacs, developed and named at the central experimental

farm, Ottawa, Ont., are numerous. Prominent among them are Oberon, pale; Audrey, a little deeper; Virgilia, still deeper; Elinor, dark red in the bud; Jessica, rich red violet. They are remarkable for size of flower spike.

"Among the F. L. Skinner hybrids of this breeding, the following are best known: Hiawatha, red; Horace, red; Handel, pink. Hiawatha has been admired by many visitors when, in the early bloom stage, it is a showy red."

PEAR MIDGE CONTROL.

With a maximum period of four days and in some seasons with only one day in which effective control of the pear midge by spraying is possible, the proper timing of spray applications is all-important in combating this destructive insect pest of pears.

In addition to proper timing, the choice of spray materials and the thorough wetting of the entire tree with the spray mixture are also important factors in control. Much information about the life history and habits of the pear midge and its control is given in a recent technical publication from the New York agricultural experiment station and in circular 170, copies of which may be obtained upon request.

The proper timing of the spray application for the pear midge is determined by the stage of development of the blossom buds in the warmer portions of the orchard. When the more advanced buds of a cluster have swollen so that the green sepals have begun to spread apart, usually revealing a trace of pink of the petal between them, it is time to spray the entire orchard. About this time the majority of adult midge

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flies are present and can be destroyed before they are able to deposit many eggs in the buds.

Eight spray mixtures that have given effective control of the pear midge under varying conditions are listed, but the most efficient sprays contain nicotine sulphate in combination with other materials as circumstances require.

ACID SOIL FOR SEEDLINGS.

During the past two years special attention has been given by the bureau of plant industry of the United States Department of Agriculture to the nursery diseases that have been interfering with the production of planting stock for the emergency tree planting programs. Haven Metcalf, in charge of forest pathology work, summarizes the conclusions in the department's annual report:


It has been found that sour or acid soils are the only kind in which pines and spruces, and in fact most evergreen forest species, can be counted on to stay healthy. On neutral or alkaline soils the so-called damping-off fungi can kill seedlings by the millions, and the use of lime is disastrous. Some time ago it was found that sulphuric acid could be applied to ordinary soils to control damping-off. More recently it has been shown by experiments at ten different localities that still better results can be obtained on many soils by using aluminum sulphate or iron sulphate; these also increase acidity, and the danger of over-dosing is less than with the acid.

At many of the central states nurseries it was found that the sand used to cover the seed contained lime in considerable quantities and was making the soil alkaline or at least defeating the soil treatments. Much damping-off was following its use, and it has now been shown experimentally that alkaline cover sands increase damping-off in subsequent crops as well as in the crops on which they are applied. At some of these nurseries it was also found that the water supply contains enough alkali salts to decrease soil acidity and increase the amount of damping-off. Measures are being taken to correct these conditions. Alkaline soil also causes chlorosis of conifers. Seedlings become yellow and dwarfed, apparently because of iron deficiency.

NEW STRAWBERRIES.

During the past two weeks the Connecticut agricultural experiment station has sent out approximately 5,000 plants of new hybrid strawberry plants, developed by plant breeders at the station. They have been shipped to a number of growers and nurserymen in Connecticut, New Jersey, Maryland and Michigan, where they will be tried out to see how well they grow under various conditions and in different localities. They will

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also be propagated with the idea of ultimately producing enough plants to satisfy the market demand.

These 5,000 plants represent five hybrids developed during the past ten years by Dr. D. F. Jones, head of the plant breeding department at the station. Using the best quality plants as parents, and applying his method of inbreeding and crossing strains, Doctor Jones finally developed 10,000 different hybrid seedlings. By a constant process of elimination, the hybrids have been reduced to five that are outstanding in yield, size, uniformity, color and flavor. These five varieties are now identified by number only, but will be officially named at the strawberry field day next June.

DEFEAT of the government reorganization bill eliminated the possibility of the Forest Service being transferred to the Department of the Interior.

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A. A. N. News

FARM FORESTRY KILLED.

After long delay, the agricultural appropriations bill came before the full House committee April 12, and the item for coöperative farm forestry was stricken out. No attempt was made to restore it on the floor of the House of Representatives, where the bill was expected to pass April 14, according to latest word from Washington, D. C.

Thus for the second time the operation of the farm forestry act has been prevented by killing the appropriation for that purpose. While the act contemplates the planting of shelterbelts through the coöperative action of the Forest Service and farmers, the provisions that make possible the marketing of the trees and shrubs so grown have raised opposition to the measure.

A. A. N. CHAPTERS.

Charters for several more chapters have been granted by the executive committee of the American Association of Nurserymen. Charter forms are now being inscribed with the charter members' names and will go forward to the secretaries shortly.

The complete list of charters granted, and their number, is as follows: 1-Ohio; 2-Michigan; 3-Illinois; 4-Tennessee; 5-New England; 6-Del-Mar-Va; 7-Kentucky; 8-Pennsylvania; 9-New Jersey; 10-Iowa; 11-Indiana; 12-Oregon-Washington; 13-Allied (New York); 14-Western New York; 15-Wisconsin.

Charter applications have also been received from Long Island, Virginia and California.

FREIGHT RATE INCREASE.

The Interstate Commerce Commission has not yet decided whether nursery stock is subject to a five per cent or a ten per cent increase under the recent freight rate decision.

The secretary of the commission indicated in a letter to A. A. N. headquarters that nursery stock was classified as a product of agriculture and therefore subject only to an increase of five per cent. But his letter was written before the receipt of the new master tariffs of the railroads, which give nursery stock a ten

per cent increase in freight rates. The larger increase is based on the fact that nursery stock had been assigned a "column rate" and the I. C. C. decision ex parte 123 stated that "it appears reasonable from the record herein, that any class or column rates now related to first class by percentage should continue to reflect the same percentages of the first-class rates, if the latter shall be increased."

The same decision stated that "all existing rates and charges may be increased by ten per cent, except the rates on products of agriculture, other than tropical fruits; as to all of which excepted groups of commodities the increase in rates may be five per cent." Nursery stock is a product of agriculture and is included as such in the annual reports of the railroads. But it has been and is on a column rate. As an agricultural product it would be subject to five per cent increase and as a commodity on a column rate it would be subject to a ten per cent increase. The Interstate Commerce Commission is expected shortly to enter a decision on this knotty problem.

NEW ENGLAND CHAPTER.

The New England Nurserymen's Association, which is chapter 5 of the American Association of Nurserymen,

held a special meeting at the Copley Square hotel, Boston, March 18, to pass on its new by-laws as an A. A. N. chapter. Twenty-five firms were represented.

The association voted to pay \$35 as its share of the outstanding debt of the Council of Eastern Nurserymen. Those present disapproved the proposal of a meeting of A. A. N. delegates from the eastern region in New York city for the purpose of nominating a member for the A. A. N. executive committee, preferring the less expensive method of making the selection by mail or at the national convention at Detroit.

The new by-laws of the New England Nurserymen's Association require that all its members be also members of the A. A. N. A membership drive is on, and whereas currently New England would be entitled to six delegates to the A. A. N. board of governors, Lester W. Needham, secretary, says they are working to make it ten. Other officers of the association are: President, Cornelius Van Tol; vice-president, Seth Kelsey; treasurer, Frederick F. Baker.

SEE 1938 HOUSING BOOM.

Optimistic indications of a 1938 housing boom came from three sources at the nation's capital last week, encouraging nurserymen in the belief that this year will surpass 1937 in demand for stock for home planting.

The Federal Housing Administra-

Refer to Our Special WHOLESALE BARGAIN LIST Recently Mailed

Prices contained in this list are effective only from April 1 for balance of the season.

A good assortment of lining-out and finished stock consisting of:

HARDY FLOWERING SHRUBS, SHADE AND ORNAMENTAL TREES, VINES AND CREEPERS.

CONIFER EVERGREENS, assorted, consisting of **BIOTAS, THUJA, JUNIPERS, SPRUCES, HEMLOCKS, BOXWOOD, EVONYMUS, AMERICAN HOLLY, KALMIA LATIFOLIA, MAGNOLIA GRANDIFLORA, RHODODENDRONS and NANDINAS.**

BARBERRY THUNBERGII seedlings, **AMORR RIVER NORTH, IBOTA, CALIFORNIA** and **SOUTH PRIVET** in lining-out and finished stock.

Samples sent upon request.
Satisfaction guaranteed on all stock purchased from us.
Send want list for special quotations.
Write for a copy of this special list.

FOREST NURSERY COMPANY, INC. McMINNVILLE TENN.

Established 1887
By J. H. H. Boyd

J. R. Boyd
President.

tion announced that it had transacted a gross business substantially in excess of \$100,000,000 during March, a new record high for that organization.

Nathan Straus, administrator of the United States Housing Authority, stated that an additional \$70,920,000 had been earmarked for slum clearance and low rent housing construction, raising total commitments by that agency so far to \$255,466,000. The U. S. H. A. administrator added that the entire \$500,000,000 fund of his organization will be earmarked within the next two months.

A survey of home building cost factors, evident the first quarter of this year, indicates that 1938 will be a better building year than either of the two past years, the National Lumber Manufacturers' Association declared in releasing the results of its study.

Landscape architects are being mobilized in regions to cooperate in construction, according to an announcement of W. R. McCormack, F. H. A. special assistant administrator. Nurserymen may be able to take advantage of the program by keeping in touch with real estate offices, local landscape architects, loaning agencies, etc. F. H. A. release 145 calls the attention of property owners to liberal improvement loans under the recent amendment to the federal housing act, including landscaping.

Home mortgages selected for appraisal by the F. H. A. during March amounted to \$95,161,202, covering almost entirely single-family dwellings and not including large-scale multifamily projects or property improvement loans that were approved, it was stated. This activity of the lending agency represented a gain of forty per cent over the \$68,045,452 of mortgages selected for appraisal in March, 1937, the previous all-time peak month. In February, this year, home mortgages selected for appraisal totaled \$42,612,638.

Property improvement loans by private lending institutions are being reported at the rate of about \$500,000 daily, it was stated.

Of the \$70,920,000 earmarked by the U. S. H. A., \$11,820,000 was set aside for seven new participating local housing authorities, including one in Hawaii, and the remaining \$59,100,000 constituted additional

Taxus Cuspidata Capitata

— UPRIGHT YEW —

The hardiest and best of the evergreens. Thrives in all locations. Requires little attention. Virtually free from pests. Shears to any desired effect. Transplants easily. Ranks as tops for hedging purposes.

From the largest block of Upright Yews in America, we supply well grown, well furnished stock, each free with an individual leader.

PRICES AND TERMS:

Size	Each	10	100
2 1/2 to 3 ft.	\$ 2.50	\$ 22.50	\$200.00
3 to 3 1/2 ft.	3.00	27.50	250.00
3 1/2 to 4 ft.	4.50	40.00
4 to 4 1/2 ft.	5.50	50.00
4 1/2 to 5 ft.	7.00	65.00
5 to 6 ft.	12.00	100.00
6 to 7 ft.	17.50	150.00

5 at 10 rate—25 at 100 rate.

Larger sizes and quantity lots priced on request.

Packing and boxing charges additional. All prices f.o.b., Rutherford, New Jersey. Order a carload. Save packing and reduce freight charges.

Visit our nurseries and greenhouses.

BOBBINK & ATKINS **RUTHERFORD**
NEW JERSEY

Catalogues or quotations on other needs as requested.

FRUIT TREE SEEDLINGS

Large growers of Washington and Kansas-grown
Apple and Pear Seedlings; Portland-grown
Mahaleb, Mazzard, Myrobalan and Quince stocks.

We carry a complete line of general nursery stock.

Send list of your wants for prices.

SHENANDOAH NURSERIES

A. F. Lake
Pres.

Shenandoah, Iowa

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Sec.-Treas.

LARGE SIZES

Taxus Cuspidata, Douglas Fir, Hemlock, Red, White, Austrian
and Mugho Pine. All Arbor-vitae, Maples and Elms.

Many Other Varieties.

Estimates Given Promptly.

LEWIS & VALENTINE NURSERIES, Roslyn, N. Y.

funds for six large cities that have already received substantial sums.

New York city received an additional \$12,000,000 April 7, bringing its total allotment of funds from the administration to \$30,000,000.

Allotments to new cities were listed as follows: San Antonio, Tex., \$3,600,000; Houston, Tex., \$2,250,000; Fort Worth, Tex., \$2,000,000; Hawaii, \$2,400,000; Muncie, Ind., \$900,000; Delaware county, Ind., \$400,000, and Athens, Ga., \$270,000.

Additional allotments and totals now earmarked for other large cities

were given as follows: Detroit, Mich., \$15,000,000, making a total of \$25,000,000; Philadelphia, \$10,000,000, a total of \$22,000,000; Cleveland, \$9,000,000, a total of \$18,000,000; Baltimore, \$9,600,000, a total of \$15,000,000, and Pittsburgh, \$3,500,000, a total of \$13,500,000.

Supplementary earmarking for cities in New York, Ohio and Pennsylvania have already brought the total funds for those states almost to the \$50,000,000 deadline set for each state. New York allotments now total \$43,330,000.

Trailing Junipers

Twelve Varieties of Low-growing Junipers Especially Adapted to Landscape Work—By Thomas B. Medlyn

The trailing junipers which can be adapted to landscape work are very limited in number. However, in addition to the so-called trailing varieties, there are other low-growing types, which can well be adapted for the same purpose. These trailing and semitrailing varieties are described in the following paragraphs.

Juniperus Sargentii, Sargent's juniper, was introduced to the Arnold Arboretum by Professor Sargent about forty years ago. It can be used for foundation plantings, rockeries, border plantings and edgings. It retains its green colors throughout the year, and we consider it very desirable. The only drawback, and this might be an advantage, is that it is rather slow-growing.

Juniperus communis depressa plumbosa, prostrate juniper, is also a favorite with us. It is one of the newer varieties, discovered about 1907, I believe, in Maine, and introduced by the Andorra Nurseries, Philadelphia. Its foliage is of a grayish green color; this changes in the fall to a purplish coloring, which to most people is attractive. It is a rapid grower and can be adapted to all types of landscape work. When planted in mass formation, in beds or in borders, it becomes effective.

Juniperus communis depressa aurea, golden prostrate juniper, originated many years ago in the old Douglas Nurseries, at Waukegan, Ill. This is a useful variety in the planting of rock gardens and creating informal effects.

Juniperus canadensis, Canadian juniper, is rather attractive, especially when the plants are about 4 or 5 years old, because of the peculiar and interesting foliage texture. However, as they get older, they become rather straggly and unsightly if not properly taken care of. It is well adapted to plantings in large rockery or naturalistic plantings where the shape of the plant is not essential.

Juniperus horizontalis is, I believe, the lowest of the creeping types. It is well adapted to planting of rockeries and slopes. After established the plants will often throw out roots

and spread for a considerable distance and are useful for the prevention of erosion soil, provided they are planted closely enough together. They are rather hard to transplant, however, because of their low growth and rather sparing root system. I should advise cutting back rather severely when transplanted.

Juniperus horizontalis glauca, blue creeping juniper, is similar to *Juniperus horizontalis*, but its bluish foliage makes it interesting.

Juniperus horizontalis alpina, alpine juniper, is also a low-growing type, but much slower-growing than the above-mentioned variety, and will easily adapt itself to planting in rock gardens and creating informal effects.

Juniperus japonica, Japanese juniper, is a vigorous grower and possibly one of the most familiar of the trailing junipers, closely covered with bluish green needles. It can be controlled with trimming and adapted to almost any condition. It will do well in the sun and fairly well in the shade. It is a good variety for terraces, hillsides and rock gardens.

Juniperus japonica aureo-variegata is similar in texture to the one just discussed, but with a lighter foliage and much slower in growth. It cannot be adapted to unfavorable conditions and can only be used in small quantities, possibly as a point of interest.

Juniperus Sabina, Savin juniper, is useful, but not adapted to city conditions. It does not seem to thrive un-

less planted in suburbs free from smoke and dirt of the city.

Juniperus Sabina tamariscifolia, tamarix Savin juniper, was a favorite for many years and still is used quite extensively in the planting of rock gardens. However, like all other *Sabina* types, it is subject to red spider in the summer, and if not properly cared for, it becomes rather unsightly.

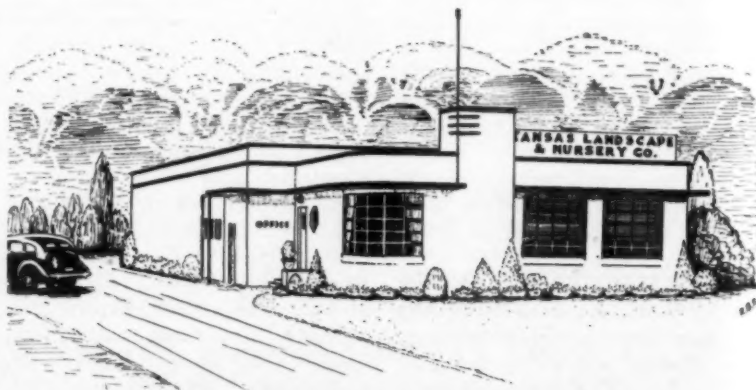
Juniperus squamata Meyer, Meyer juniper, has as its outstanding feature the color of the foliage, which is shiny blue. The leaves are plump, pointed and prickly. The foliage appears in different shades when viewed from different angles. The growth is rather irregular and can be trained into a low-growing or semitrailing type.

KANSAS FIRM'S NEW HOME.

The formal opening of the new business home of the Kansas Landscape & Nursery Co., 1416 East Iron avenue, Salina, Kan., was held Saturday, March 26, and Sunday, March 27.

Over 4,000 guests, many from distant points, responded to announcements given in newspapers and over the radio and to invitations sent by mail. They had an opportunity to hear programs broadcast over KSAL direct from the nursery, to enter an essay contest on "What I Saw During my Visit to the Nursery" for prizes of landscape work, and to look over the new building guided by uniformed employees.

The building, 40x80 feet, is built of concrete with steel-beamed roof in modern design. The exterior is white with black trim, and the building is topped with a large neon sign



Office Building Recently Opened by Kansas Nursery Firm.

SHADE TREES

	Per 10	Per 100
Ash, Am. White, 10 to 12 ft.	\$7.50	\$65.00
Ash, Am. White, 2 to 2 1/2-in. cal.	15.00	125.00
Catalpa Bungei, 5 to 6 ft.	7.50	65.00
Elm, American, 10 to 12 ft.	7.50	65.00
Elm, American, 1 1/2 to 2-in. cal.	9.00	80.00
Elm, American, 2 to 2 1/2-in. cal.	12.50	115.00
Flowering Crab, 3 to 4 ft.	4.00
(Eleyi, Floribunda, Hops, Sargentii)		
Japanese Cherry, 3 to 4 ft.	7.50	65.00
Japanese Cherry, 4 to 5 ft.	8.50	75.00
Jap. Weeping Cherry, 1-yr.		
5 to 6 ft.	13.50	125.00
Maple, Norway, 8 to 10 ft.	9.50	85.00
Maple, Norway, 10 to 12 ft.	11.00	100.00
Maple, Norway, 2 to 2 1/2-in. cal.	20.00	185.00
Oak Pin, 2 to 2 1/2-in. cal.	25.00
Oak Pin, 2 1/2 to 3-in. cal.	40.00
Piano, Oriental, 2 1/2 to 3-in. cal.	20.00
Poplar, Lombardy, 6 to 8 ft.	2.50	20.00
Poplar, Lombardy, 8 to 10 ft.	3.00	25.00
Poplar, Lombardy, 10 to 12 ft.	4.00	35.00

Write for prices on other varieties and sizes.

WAYNESBORO NURSERIES, INC.

Waynesboro, Virginia

Shade Tree Special

	Per 100	Per 1000
Black Locust, 4 to 6 ft.	\$7.00	\$50.00
8 to 9 ft.	12.00	100.00
Lombardy Poplar, 6 to 8 ft.	18.00	165.00
8 to 10 ft.	25.00	225.00
Rhus Glabra, 2 to 3 ft.	6.00	50.00
3 to 4 ft.	10.00	75.00
Sugar Maple, 5 to 6 ft.	25.00	200.00
6 to 8 ft.	40.00	300.00
Wisconsin Weeping Willow		
3 to 4 ft.	5.00	40.00
4 to 5 ft.	10.00	75.00

NAGLE'S NURSERY

Benton Harbor, Mich.

TAXUS**Cuspidata Capitata**

1 1/2 to 9 feet.

Carloads or truckloads only.

VISSER'S NURSERIES

Springfield Gardens, L. I., N. Y.

PRIVET and BERBERIS**Splendid Stock**

Write for Special Quotations

LESTER C. LOVETT

Milford

Delaware

Ampelopsis Veitchii Forcing Roses**Barberry Thunbergii**

And Complete Line of Nursery Stock

C. R. BURR & COMPANY, Inc.

Dept. A—Manchester, Conn.

Canterbury Boxwood**Buxus suffruticosa and B. sempervirens.**

Selected uniform plants; bushy and foliated to center; masses of fibrous roots. Finished specimens from 4 inches up, ready for quick shipment. Prices lower, plants larger. Ask for special list.

CANTERBURY, Box A, Easton, Md.

showing the name plate in black on a background which can be changed from blue to red.

The front of the building houses a reception room, bookkeeping department, cashier's office and the office of Ralph B. Ricklefs, manager and landscape architect. These rooms have such typically modern features as a rounded corner window, aluminum Venetian blinds, fireplace with book shelves and paneled walls, and such built-in conveniences as leather-cushioned seats, cooling system, wall safe, filing cabinets and radio!

In the rear of the building is the 40x40 storage cellar with one story aboveground, and adjoining that a packing department 20x40 feet, having a concrete floor and exposed ceiling beams.

Mr. Ricklefs reports a good cash business during the opening and an inundation of essays. "Until we started to read them we really didn't know we were such a wonderful firm," he says.

BORON FOR APPLE DISEASE.

Although essential to plant growth, boron is one of the elements needed only in trace amounts, say scientists of the United States Department of Agriculture. In fact, too much boron is toxic to plant growth.

In 1931 a German discovered that boron deficiency is the cause of heart rot or dry rot of sugar beets and mangolds. Investigators in New Zealand associated corky core of apples with boron deficiency.

Now scientists of the bureau of plant industry find that lack of boron also causes "internal corking" of apples in the United States, a nutritional disorder that causes brown corky spots near the core. It is prevalent in both eastern and western United States. They find, further, that small applications of borax or boric acid on the ground within the spread of the apple tree branches correct the disorder. One application in autumn, or in the spring at least three weeks before blooming time, is sufficient. One-third pound to one pound of the boron materials to each tree, depending on the age of the tree, is recommended. Because of its toxic qualities, after the first application no more boron should be spread under the tree until the internal cork appears again.

LINING-OUT STOCK

Grafted plants from 2 1/2-in. pots

	10	100
Acer palmatum ashi-beni	\$3.50	\$30.00
Acer dissectum atropurpureum	3.00	25.00
Thuja occ. Douglasii spiralis	2.25	20.00
Thuja occ. elegantissima	2.25	20.00
Thuja occ. lutea Mary Corey	2.25	20.00
Thuja occ. pyramidalis	2.25	20.00
Thuja occ. Rosenthalii	2.25	20.00
Thuja occ. Wareana (sibirica)	2.25	20.00
Thuja orientalis aurea nana	2.25	20.00
Taxus media Brownii	2.75	25.00
Taxus media Hatfieldii	2.75	25.00
Taxus media Hicksii	2.75	25.00

SEEDLINGS

	100	1000
Juniperus virginiana	\$3.00	\$25.00
3 to 6 ins.	2.00	15.00
Pinus sylvestris, 4 to 6 ins.	2.00	15.00
Pseudotsuga Douglasii, 4 to 6 ins.	2.50	20.00
Syringa vulgaris, 4 to 8 ins.	2.00	15.00
Thuja orientalis, 3 to 6 ins.	1.50	10.00
Thuja orientalis, 8 to 12 ins. transpl.	5.00	40.00

Hess' Nurseries

Mountain View, New Jersey

Jackson & Perkins Company**Wholesale Nurseries**

NEWARK
NEW YORK STATE

LINING-OUT STOCK

Connecticut Valley Grown

Seedlings - Rooted Cuttings
Evergreen and Deciduous

Write for list

C. E. WILSON & CO., INC.
Manchester, Connecticut**PRINCETON NURSERIES**
of PRINCETON, N. J.

SUPERIOR
Hardy Ornamentals

QUALITY NURSERIES

Allenwood, Pa.

Largest Nursery in Central Pennsylvania

Special Prices

on

Hemlock—Yew—Arbor-vita

GENERAL NURSERY STOCK

Specimen and Lining-out
FAIRVIEW EVERGREEN NURSERIES

Fairview, Erie Co., Pa.

Plant Up Southern City

Beautification of New Orleans by Azalea Trail and Other Park Projects with W. P. A. Labor

New Orleans, always a garden spot which dazzles visitors by the beauty of its semitropical foliage, now blooms more brilliantly than ever. The Works Progress Administration of Louisiana, under sponsorship of the historic city, has literally gilded the lily.

Outstanding among the contributions to the city's floral beauty by relief workers of the W. P. A. is the "azalea trail." In addition, the W. P. A. has beautified more than fifty-five miles of neutral grounds and sixty small works, to say nothing of extensive landscaping at City and Audubon parks, Jackson square and Shushan airport.

A visitor to New Orleans, entering the city from the east by way of the gulf coast, picks up the azalea trail at Broad street and follows it to Canal street in the center of the municipality. Should he enter on the airline highway from Baton Rouge he first would see the trail at Carrollton avenue and be led through St. Charles avenue into downtown New Orleans.

Some of the shrubs planted a year ago by workers of the W. P. A. and tended now by the city parkway commission already have reached a height of five feet, so ideal is the short New Orleans winter for the flowers planted.

The special crew assigned to the azalea trail placed peat moss around the plants as a winter protection, and Felix Seeger, chairman of the parkway commission, estimates that 35,000 healthy plants bloomed this spring.

About \$5,000,000, roughly half the money expended in the W. P. A. program at City park, has been spent in extending, landscaping and beautifying the area. Originally containing only about 400 acres, this park now covers approximately 1,500 acres, with a municipal stadium, concrete drives, walks, tennis courts and athletic fields accounting for the balance of W. P. A. expenditure.

More than 4,000,000 square yards of the new addition to the park have been graded and filled with topsoil for landscaping; some 23,000 trees,

conifers and palms, 69,000 shrubs and 80,000 vines, perennials and bulbs have been planted.

Two spots which enjoy particular popularity in City park are the rose garden and the Popp memorial fountain, set in the midst of a grove of cypress and willow trees and surrounded by a small park landscaped by W. P. A.

Audubon park is another site of natural beauty whose recreational attractiveness has been enhanced. A modern zoological garden was built, with brick and concrete animal houses, after which the entire area was landscaped.

Equally striking will be the beautiful Lakeshore drive from the Southern Yacht Club to Milneburg, now rapidly becoming one of the loveliest sections of New Orleans. Workers are top soiling sandy fills pumped in from the lake, sodding it with grass and planting palm trees, shrubs and flowers.

Carrying on a program started by its predecessors, the W. P. A. started about two years ago on the task of beautifying Shushan airport on Lake Pontchartrain and has not only completed an extensive landscaping project but has completed a swimming pool, 40x80 feet, with a capacity of 154,000 gallons.

Directly in front of the Moffett hangar, near the entrance to the airfield, the W. P. A. is erecting a monument, set in the center of a beautiful fountain, which will depict the winds of the north, south, east and west. A system of underwater lights will play at night upon the central figures, designed by Enrique Alfarez, native New Orleans sculptor. Around the fountain is a small park landscaped by the W. P. A. with azaleas and shrubs.

Attention was paid, too, to Jackson square, originally the Place d'Armes and one of the historic landmarks of the city. Among the public gatherings at this site, made famous in romantic tale and historic record, were the welcoming reception to the Acadians in 1775, the celebration in 1803 of the transfer of Louisiana to the United States and the pub-

lic meeting accorded General Andrew Jackson after his victorious battle at Chalmette during the War of 1812. New paving and planting of shrubs and flowers restored this famous square to its place as one of the most attractive points of interest in that region.

Throughout the city, little grass islands, planted with shrubs and landscaped by W. P. A., have contributed to the program which is making New Orleans as physically beautiful as it is historically renowned.

TREES ON DALLAS CAMPUS.

Those familiar with the long-established campus plantings of eastern and northern universities may not realize that the process of landscaping is still going on in newer sections. The planting of a mile of live oaks on the campus of Southern Methodist University marks another step in the beautification of the grounds at that institution, at Dallas, Tex. Recent description of the extensive work done appeared in the Dallas News, as follows:

"The planting of 128 live oak

SPECIAL LINING-OUT STOCK EVERGREENS

Order at once

Norway Spruce
60,000 3-year, 7 to 10 ins. \$12.00 per 1000
Colorado Longleaf Bull Pine
15,000 3-year, 5 to 8 ins. 16.00 per 1000
Austrian Pine
6,000 3-year, 8 to 10 ins. 18.00 per 1000
Oriental Arbor-vitae
40,000 3-year, 6 to 10 ins. 10.00 per 1000
Japanese Larch
10,000 3-year, 7 to 10 ins. 10.00 per 1000
Fresh dug. Free packing in handy baskets.

Cash with order.

MATHEWS EGGERT NURSERY
North Muskegon, Mich.

SAVIN JUNIPER

6000 B&B
15 to 18 ins. \$0.50 18 to 24 ins. \$0.65
24 to 30 ins. .85 30 to 36 ins. 1.00
HORIZONTALIS JUNIPER
18 to 24 ins. \$0.60 24 to 30 ins. \$0.75
HIBERNICA JUNIPER
18 to 24 ins. \$0.40 24 to 30 ins. \$0.50
30 to 36 ins. .60 3 to 4 ft. 1.00
Elm. American, 1 1/2 to 3-in. cal.
Betula Populifolia, 1 1/2 to 3-in. cal.

Prices on application.

All stock first-class nursery-grown.

THE HIGHLAND NURSERIES
Johnstown, N. Y.

FRUIT TREE SEEDLINGS

Western-Grown Per 1000
Apple, 3/16-in. \$17.00
French Pear, 3/16-in. 17.00
Myrobalan Plum, 3/16-in. 18.00
These are well graded, sturdy, healthy seedlings, on which we do our own budding and are sure to please. Supply limited.

C. R. BURR & COMPANY, INC.
Dept. A.—Manchester, Conn.

TAXUS CUSPIDATA

Propagated from cuttings of the improved dark green strain.

XXX B&B—18 to 24 ins.\$1.50
2 to 2½ ft. 2.00
2½ to 3 ft. 3.00

For larger plants, ask for prices.

TAXUS BACCATA AUREA

15 to 18 ins., B&B.\$1.00
18 to 24 ins., B&B. 1.50

JUNIPERUS DEPRESSA PLUMOSA

18 to 24 ins., B&B.\$1.00
2 to 2½ ft., B&B. 1.50

Best low-growing Juniper.

Above prices in lots of 100. F.o.b. Cincinnati.

THE W. A. NATORP CO.

Cincinnati, Ohio

LINING-OUT STOCK

For direct shipment

Biota Orientalis Compacta

Seedlings, 5 to 7 ins.\$18.00 per 1,000
Seedlings, 5 to 7 ins.\$170.00 per 10,000

For shipment June 15, 1938

Juniperus Pfitzeriana

Rooted cuttings, 6 to 8 ins.\$10.00 per 100
Rooted cuttings, 6 to 8 ins.\$90.00 per 1000
Out of 2½-in. pots, 6 to 8 ins.\$12.50 per 100
Out of 2½-in. pots, 6 to 8 ins.\$110.00 per 1000

PAUL OFFENBERG NURSERY CO.

1988 E. Livingston Ave. Columbus, O.

WILLIS NURSERY Co.

Wholesale Nurserymen

Write for Catalogue

OTTAWA - - KANSAS

MOUNT ARBOR NURSERIES

E. S. Welch Est. 1875 Shenandoah, Iowa

A COMPLETE LINE OF GENERAL NURSERY STOCK—ASK FOR TRADE LIST

Send us your WANT LIST for quotations
"One of America's Foremost Nurseries"

HILL'S EVERGREENS

Complete assortment of lining-out sizes
Also larger grades for landscaping
Send for our wholesale catalogue

D. HILL NURSERY CO.

EVERGREEN SPECIALISTS
Largest Growers in America

Box 402 DUNDEE, ILLINOIS

SAVE MONEY

No. 1 Shrubs, 2 to 3 ft., 6c up. Also Fruit Trees and Evergreens at new low prices.

Write for our surplus list and make big savings.

MALONEY BROS. NURSERY CO.

Est. 1864 Danville, N. Y. 400 acres

trees on Bishop boulevard this year carries forward the excellent progress already made in landscaping the campus of Southern Methodist University and ultimately will give Dallas hall one of the most beautiful approaches to be found in the whole southwest.

"It is hard for today's visitor to realize that as recently as 1924 wheat and oats grew on part of the S. M. U. campus and that Johnson grass grew waist-high on much of the remainder. In that year, however, a landscaping program was adopted, and the results already have given a striking attractiveness to the campus. Normal growth of trees and shrubs will make the grounds even more beautiful.

"Landscaping of the campus has been planned by a special committee of Dallas citizens and university officials. Bremer W. Pond, a Boston landscape architect, was engaged to make a general design, one of the chief advantages of which was relating of individual buildings to a unified plan. Streets and walks were changed, and wires were placed underground.

"Dr. A. D. Schuessler had been in charge of carrying out this comprehensive landscaping program, and in 1928 Robert Prospick was engaged as university gardener. Many trees and shrubs have been donated, and large quantities have been grown in the university's own greenhouse. The campus now has nearly 3,000 trees and about 40,000 shrubs.

"The live oak to be planted this year will be large ones and will add much to the attractiveness of the campus, present and future. The live oak is one of the most stately trees of Texas and is well adapted to soil and climatic conditions here. Live oaks set out at S. M. U. in 1938 may eventually become as famous as the elms on some of the older university campuses in the north."

The Griffing Nurseries, Beaumont, Tex., which have made a specialty of producing specimen evergreen live oak trees for a number of years, supplied the 128 trees, and Dr. Schuessler, in reporting on their fine showing, stated that one especially selected for planting near Dallas hall is called the "W. C. Griffing tree."

**Just half price!
to close out**

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	Per 1000	Entire lot
11,000 6 to 9 ins.	\$5.00	\$27.50
11,000 9 to 12 ins.	7.00	37.50
12,000 18 to 24 ins.	14.00	84.00
15,000 2 to 3 ft.	20.00	150.00

2-yr. seedlings, first-class in every way.

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Taxus Ovata (rare yew).

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H. J. Hohman, Kingsville, Md.

Acid Soil Problem

Studies Point Ways of Correcting Soils Turned Acid by Continued Use of Commercial Fertilizers

Acid condition of the soil resulting from the use of certain fertilizers is stressed in the annual report on commercial mixtures issued by the Connecticut agricultural experiment station, bulletin 404. In an explanatory article, Dr. M. F. Morgan, chief agronomist at the station, writes:

"Considerable attention has been given in the last few years to studies of the tendencies of commercial fertilizers to increase or decrease the acidity of the soil. It is now generally accepted that the ammoniacal sources of nitrogen, such as ammonium sulphate and ammonium phosphate, are the most strongly acid in their effects upon the soil. Thus, it is estimated that each unit of ammonia nitrogen (amount supplied per ton for each per cent) is capable of increasing soil acidity to the equivalent of 107 pounds of calcium carbonate. So a half-ton per acre application of a four per cent nitrogen fertilizer supplying all its nitrogen from sulphate of ammonia may require 214 pounds of limestone to offset this acid tendency. Urea and similar water-soluble organic nitrogen sources are also acid, to the extent of about thirty-six pounds of limestone per unit of nitrogen in such form. On the other hand, nitrates are somewhat basic (opposed to acid) in their effects upon the soil. A unit of nitrate nitrogen thus replaces thirty-six pounds of limestone in counteracting soil acidity. Cyanamid is considerably more basic, each unit in this form replacing about fifty-seven pounds of limestone.

"The other common fertilizer ingredients have less effect upon soil acidity. Bone meal, precipitated bone and bone ash are somewhat basic. Superphosphate of usual grades and both muriate and sulphate of potash are without significant effects in either direction. Carbonate of potash and cotton hull ash are definitely basic constituents of the fertilizer."

It is evident that the continued use of fertilizers supplying the bulk of their nitrogen from ammoniacal sources may result in the develop-

ment of injuriously acid soils. By the use of lime fairly liberally as a routine practice, an acid-reacting fertilizer may be employed regularly without ill effect. On the other hand, a soil already in a desirable condition from the standpoint of soil reaction is most simply maintained at that level by the use of a fertilizer that does not contribute to soil acidity.

Some fertilizer manufacturers are now incorporating limestone, preferably of the dolomitic type, in fertilizer mixtures that supply appreciable amounts of acid-reacting materials. It is thus possible to produce a non-acid fertilizer containing reasonable proportions of cheap and otherwise desirable constituents, such as sulphate of ammonia.

To show the relation of acid-base balance to character of nitrogen furnished in the various types of mixed fertilizer commonly produced, data are presented in tabular form in the bulletin. It is evident that the majority of samples of common fertilizers of general purpose (4-8-4 and 5-10-5), market garden or potato (4-8-7 and 5-8-7) and top-dressing (7-6-6 and 8-6-6) types are distinctly acid-forming. This is readily explained on the basis of their comparatively high proportions of ammonia nitrogen. On the other hand, there are individual samples in these groups that are formulated in such a manner as to give a neutral or nonacid-forming result. This is in part due to an increased proportion of nitrate nitrogen, but has been chiefly accomplished by the use of a liming material in the formula in sufficient amount to counteract the acid-reacting components. It is also evident that with the unadjusted fertilizers,

the acid-forming tendency increases with the percentage of nitrogen. The net effect of ingredients other than ammoniates or water-soluble nitrogenous material tends to diminish their degree of acidity, to the equivalent of approximately 100 pounds of calcium carbonate per ton in most cases.

REGISTERED ARBORISTS.

New Hampshire is another state which requires the examination and registration of persons or firms advertising, soliciting or contracting to prune, spray or repair trees. Examination is by a board comprising the state forester, commissioner of agriculture and entomologist of the agricultural experiment station. Certificates are issued annually, but renewed without examination, a fee of \$2 being required for each certificate or renewal issued. The law, however, contains a clause to the effect that registration is not required to do work in the town of one's legal residence. Currently thirty-six arborists have been registered in 1938.

The provisions of the Connecticut law were given in a recent issue. Other states that require examination and licensing of tree workers are Maine and Rhode Island. Several states have attempted such legislation, but without success as yet.

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5000 and over.... 13.00 per 1000



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Thanks to our many friends, we are completely sold out of roses for this year. By the first of May we shall be ready to accept future orders for delivery in the fall of 1938 and spring of 1939.

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New Rose TEXAS CENTENNIAL

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Hardy Northern Type—Mature stock, power dug. Immediate or later shipment.

Write for prices.
TOLLESON NURSERIES Denver, Colo.

HARDY Rosebushes

for 1938-39

HOWARD ROSE CO.
Hemet, Calif.

**TREE MOVING.**

[Continued from page 10.]

tion recover from the shock of transplanting more readily than those moved from a wet location.

If we can get a customer to give us a definite order long enough in advance of planting, we give the tree some preparatory treatment. This is based on an idea that there are more roots near the trunk and in the surface soil which have been provided by nature with feeding rootlets and the ability to develop other roots adventitiously when roots are injured or cut than is generally supposed. As a rule, we root prune by digging a narrow trench, one to two feet in depth, allowing six to nine inches of ball for each inch of caliper three feet above the ground. The trench is refilled and the soil tamped in. Over the top of this ball is dug in a liberal application of high-grade fertilizer, 10-6-4, two and one-half to three pounds for each inch of caliper. If manure, straw, leaves or weeds are available, the ball is heavily mulched. I have been amazed at the number of fine feeding roots which have developed underneath this mulch in the top part of the ball. This preparatory treatment seems well worth while when the trees are to be planted in an active growing condition, provided precautions are made to move the ball with the majority of fine roots unbroken. The feeding roots are the ones depended upon to support the tree through the shock of transplanting. If the tree is pulled over or loaded by the trunk, these roots are the first ones broken in the ball.

Most specifications call for one foot of ball to each inch of caliper taken four feet above the ground, which I believe to be ample for collected trees of most varieties, provided the ball can be delivered to the planting site in good condition.

In digging large trees, the trench outside the ball should be at least two feet beyond the limits of the ball. There is no economy in working in crowded quarters. The trench should be slightly deeper than the ball. When the trench is finished, begin twelve to eighteen inches from the surface of the ball to undercut or taper toward the taproot; the bottom of the ball should approximate two-thirds the size of the top of the ball. We burlap and rope the ball or cover

Azalea mollis
(Chinese Azalea)

Ceanothus prostratus
(Mahala Mat)

Thuja orientalis aurea nana
(Berckmans' Golden Arbor-vitae)

Arctostaphylos Uva-ursi
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And many others, both old and new, in our complete line of
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**BROAD-LEAVED
AND CONIFEROUS**
Lining-out and Balled Stock
Rooted Cuttings

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Giving Descriptions and Prices*

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Grown Right and Packed Right

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Quality stock. References on request.*

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with 6x6 wire fencing of about No. 10 gauge. When this is done, we dig an incline into the tree hole and fit the mover to the ball; the shearing skids are placed around the bottom of the ball, and the tree is cut off with a winch or pull jack. These shearing skids also act as a frame back of which inch boards are placed to form a platform over the entire bottom of the ball if needed. If the ball is dry and the weather hot, we wet the ball before loading or as soon as water is available. This is important in summer work.

It takes from three-quarters of an hour to one hour for three men and a truck driver to hook the mover up to an 8-foot ball, one-quarter to one-half an hour to load the tree and another half-hour to remove it from the hole, all under favorable conditions. Anything can happen in wet weather and sometimes does. At no time during these operations do we attach any equipment or tackle to the top or trunk of the tree. For long hauls of wet balls over rough roads, we can arrange an adjustable sling of webbing to carry part of the weight of the tree, also sprinkling the foliage with water at every opportunity in transit. We try to have the hole dug before the tree arrives at the new location, digging the hole only as deep as the ball and wide enough to get two feet or more of good soil around the ball when the tree is in place. We do not use any soil or compost in the bottom of the hole, underneath the ball. We slope the bottom of hole in the direction where we shall place our drainage. Drainage, to my way of thinking, is one of the most important features of large tree moving, as adequate drainage is absolutely necessary for summer planting in heavy soils and it is desirable in all others.

To protect the tree, customer and yourself, drain the hole in some way as soon as the tree is planted and watered in. Use a tile drain out to the surface, if on a slope, or dig one or more holes just outside the area of the tree hole. These holes should extend to a depth of four to six feet below the bottom of the ball and can be filled in with coarse rubble or gravel. The tighter the subgrade, the more holes or dry wells necessary. If in a hardpan, a charge of forty per cent dynamite will be a great help. We quite often use a post hole

digger such as telephone linemen use to dig drainage holes.

Place the tree in the hole at an exact grade or slightly higher than it stood in its original location, as air and warmth, I believe, are conducive to rapid root growth. A fill over the roots and continuous flooding at time of planting, if the tree is in active growth, tend to smother the roots at a time when they are most needed.

Sufficient time and care should be given to tamping underneath and around the bottom of the ball. The back fill of good topsoil to which has been added a liberal amount of well rotted manure is thoroughly tamped in place and leveled with the top of the ball; if manure is not obtainable, the soil for the back fill can consist of ten per cent of its bulk of humus to which has been added a liberal application of organic fertilizer.

Have enough soil on hand to make a slight ridge six to eight inches high and one-half or three-fourths of the distance between the trunk of the tree and the edge of the ball. When this is ready, turn on the water slowly and let it soak in. An application of liquid manure can be given at this time with good results. Water until the ball is soft enough to allow a hoe handle to be pushed to the full depth of the ball or water appears on the surface of the back fill. Sprinkling the foliage should not be neglected at the time of planting and a few days thereafter, if the weather is dry and hot. A hose carried to the top of the tree or a mist sprinkler covering a wide area is one way to accomplish this.

We wrap the tree with a burlap strip of at least two thicknesses. Whether or not this is of any benefit to the corky-barked trees, I am unable to say. However, we do find that some of the smooth-barked trees are more susceptible to sun scald during the first winter if not wrapped. We have experimented with cellophane-backed scrim and we believe it gives better protection from sun scald and borers when used on apple, hawthorn and dogwood. Guy each tree before back filling with cable and turnbuckle or with heavy twisted wire attached to sunken anchors in the ground. New rubber hose of the best quality should be used over the wire or cable wherever in contact with the tree if it is intended to

leave guy wires on more than one year. We have found trees badly cut from guy wires' wearing through old hose.

To me, mulch over the ball is of doubtful value and may be a disadvantage, as many gardeners depend upon the condition of the mulch and neglect the watering. We prefer to mulch trees for late autumn and winter with straw manure, to be removed from the top of the ball early the following spring.

If trees are planted in or out of season, check their condition often during their first growing season. It is surprising how quickly roots in an active growing condition absorb water. When water is needed, water through the ball only and until moist to the bottom. If the ball is left unmulched and uncultivated during the spring and summer, there can be noticed a change in the soil color of the

HARDY LILIES

25 at 100 rate; 6 at doz. rate. Doz. 100

Auratum 8 to 9 ins. circumference...\$1.70 \$12.00

Batemanniae First size 2.50 18.00

Second size 1.70 12.00

Crocus (Irish Orange Lily) Top size, 7 ins. and up.... 2.50 18.00

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8 to 9 ins. circumference. 1.70 12.00

7 to 8 ins. circumference. 1.30 9.00

6 to 7 ins. circumference. .90 6.00

4 to 5 ins. circumference. .40 2.50

Philippine Formosanum (The New Wonder Lily) 5 ins. cir. and up. 2.20 15.00

4 to 5 ins. circumference. 1.70 12.00

3 to 4 ins. circumference. 1.30 9.00

2 to 3 ins. circumference. .90 6.00

1 1/2 to 2 ins. circumference. .50 3.00

Regale (Regal Lily) 8 to 9 ins. circumference. 1.70 12.00

7 to 8 ins. circumference. 1.30 9.00

6 to 7 ins. circumference. 1.00 7.00

5 to 6 ins. circumference. .75 5.00

4 to 5 ins. circumference. .50 3.00

3 to 4 ins. circumference. .40 2.00

Speciosum Album, white 8 to 9 ins. circumference. 2.20 15.00

Speciosum Rubrum (Magnificum) 8 to 9 ins. circumference. 1.70 12.00

Superbum (American

Turks-Cap Lily) First size 1.90 12.00

Second size 1.30 9.00

Tenouifolium (Coral Lily) 2-year, No. 1, 2 to 4 ins. cir. .75 5.00

3-year, No. 2, 2 to 3 ins. cir. .50 3.00

1-year, No. 1, 1 1/2 to 2 ins. cir. .40 2.00

Tenouifolium Golden Gleam (Golden Coral Lily), blooms in June

2-year, No. 2, 2 to 3 ins. cir. .75 5.00

1-year, No. 1, 1 1/2 to 2 ins. cir. .50 3.00

Tigrinum (Single Tiger Lily) 8 ins. cir. and up. 1.50 8.00

7 to 8 ins. circumference. 1.00 6.00

6 to 7 ins. circumference. .75 5.00

5 to 6 ins. circumference. .60 4.00

4 to 5 ins. circumference. .45 3.00

3 to 4 ins. circumference. .30 2.00

Tigrinum Flore-Pleue (Double Tiger Lily) First size, 6 ins. cir. and up 1.50 10.00

Second size, 4 to 6 ins. cir. 1.00 7.00

Umbellatum (Dauricum) First size 1.70 12.00

Second size 1.30 9.00

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20,000 **ELMS, American, Vase,**
Moline, up to 4 inches,
transplanted.

4,000 **MAPLE, Norway,** up to 2½
inches, transplanted.

2,000 **WILLOW, Thurlow,** 8 to 10
ft. and 10 to 12 ft.

10,000 **SPIRÆA, Vanhouttei,** 3 to
4 ft. and 4 to 5 ft.

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Plants.

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STOCK YOU WILL NEED

Cotoneaster Acutifolia, 2 to 3 ft.
Cornus Paniculata, 18 to 24 ins.
Cornus Sibirica, 3 to 4 ft.
Privet Amoor River North, 2 to 3 ft.;
18 to 24 ins.
Ribes Alpinum, 18 to 24 ins.
Rosa Setigera, 2 to 3 ft.; heavy.
Lonicera Morrowii, 2 to 3 ft.
Lilac Persica, 18 to 24 ins.
Viburnum Americanum, 2 to 3 ft.
Flowering Crab, 2 to 3 ft.; 3 to 4 ft.;
4 to 5 ft.
Polygonum Aubertii, 2-year.

ESCHRICH'S NURSERY, Sta. F, Milwaukee, Wis.

PEONIES
All types, including Tree Peonies
The Cottage Gardens
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Vine Major, divisions ...\$17.00 per 1000
Vine Major, clumps 30.00 per 1000
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Pot-grown plants; over a hundred varieties.
Dried Herbs for Flavoring and Fragrance.
Other plants of unusual character and
with the charm of old-time gardens.

Write for Catalogue

Weathered Oak Herb Farm, Inc.
BRADLEY HILLS, BETHESDA, MARYLAND

top of the ball as it dries out; in our
soils it will assume a bleached or
whitish appearance when in need of
water. It does no harm to raise
your eyes to the top of the tree as
you go by; there should be beauty
there for you to enjoy and perhaps a
warning; dull-looking, yellowish or
faded green leaves often tell a tale
of neglect, which may be due to a
lack of water or too much of it; the
effects appear to be much the same.

This past summer we planted an
elm tree. We told the customer not
to let the tree dry out; she thought
this meant letting the hose run on it
every day. In a few days she called
up and notified us that the leaves
were turning yellow. We immedi-
ately made an examination. We knew,
of course, when we looked at it, that
there was too much water and not
enough drainage. To check on this
we dug around the bottom of the
ball to see if the roots had blue'd; the
bottom layer of roots showed this
condition decidedly; we immediately
put in more drainage to drain off the
surplus. Not long after this, the
report came in that all the leaves had
fallen off the tree. We expected to
replace this tree, but along in July it
put out another set of leaves, which
it held until freezing weather. The
top and root indications at present
are that this tree will grow and
thrive.

If we plant in locations where it is
inconvenient for frequent inspec-
tions, we make sure whoever is in
charge understands how the trees are
to be cared for. Owners take a per-
sonal interest in the large trees they
have planted and appreciate our con-
tinued interest in the welfare of their
trees. Repeat orders often come as
the result.

Promotion of sales for out-of-sea-
son planting has extended our plant-
ing season without injury to our cus-
tomers, has helped to keep our men
employed and will help, I believe,
to cut the surplus of large material
which has developed during the past
few years.

The nurseryman who keeps in
mind that he is dealing with living,
growing things when he is planting
trees and is careful that he and his
workmen treat them as such, both
during and after the operation, need
not fear the results, whether the
operation is done in or out of the so-
called planting season.

PFITZER'S JUNIPER

Most popular evergreen, always in
demand.

Linera grow into money quickly.
Order now. Can ship any time desired.

Potted Plants

2 to 4-in. tops, 9c
4 to 6-in., 12c
6 to 8-in., 15c

Also offer big list of other evergreens.

SHERMAN NURSERY CO.

Charles City, Iowa

Fine Lining-Out Stock

All No. 1 stock. Priced per 100.

Clematis paniculata, 1-yr. transplants.....\$6.00
Hall's Jap. Honeysuckle Vine, 12 to 18 ins... 2.00
American Bittersweet, 12 to 15 ins..... 3.00
Boston Ivy, fine No. 1 seedlings..... 2.50
Deutzia crenata, dbl. pink; 12 to 18 ins..... 3.00
Spiraea Vanhouttei, 12 to 18 ins..... 2.50
Viburnum Op. Sterile, Snowball, 6 to 12 ins. 3.50
Chinese Elm, 2 to 3 ft.; fine stock..... 2.75
American Linden, 2 to 3 ft.; nice trees..... 3.50
Fussian Olive, Elmagnus, 18 to 24 ins..... 3.50
Fl. Crab, Baccata, 2-yr., 12 to 15 ins..... 6.00
Bechtel's Fl. Crab grafts, Niedzwetzkyana Crab.
Floribunda Crab grafts, Prunus Newport. Fine
for lining-out, \$5.00 per 100.

Cash please, free packing. 25 at 100 rate.

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RHODODENDRONS

KALMIA :: AZALEA :: HEMLOCKS

Nursery-grown and Collected
No order too large but what prompt shipment
can be made. Prices in line.

ANTHONY LAKE NURSERY

PINEOLA, AVERY COUNTY, N. C.



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For Seventy-four years
growers of Quality Evergreens
Lining-out Stock a Specialty

Write for Trade List

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Established 1864 :: STURGEON BAY, WIS.

We have a surplus of **LINING-OUT
SHRUBS AND TREES** in European
Filbert, Forsythias, Tamarix, Honey-
suckles, Poplars, Spiraea, Silver Lace-
Vine and Buddleia varieties. See our
catalogue for complete list of buys.

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CASSTOWN, OHIO

COMPLETE STOCK

**Lining-out Evergreens
and Shrubs**

Write for list.

SCOTCH GROVE NURSERY
Scotch Grove, Iowa

THE WESTMINSTER NURSERIES

WESTMINSTER, MARYLAND

Fruit and Shade Trees, Evergreens, Shrubbery,
all sizes up to 7 ft. California Privet, 3 to 7
ft., in grades. Heather, assorted, 8 to 18-in.
clumps. Evergreen Privet and Barberry, Peren-
nials, etc.

We have a very complete line. Trade list sent
on request.

California Shows

OAKLAND SHOW.

The ninth annual spring garden show at Oakland, Cal., which opened April 6, filled the exposition auditorium with the best display of the series, to which nurserymen contributed in large measure.

The California Nursery Co., Niles, had two exhibits in the show—a nursery display and a colorful showing of masses of spring flowers. In the first, azaleas of different colors were set about a small pool. Combined in the garden were daffodils, primroses and narcissi against a background of shrubbery and trees. A small shrine was placed at one side of the exhibit. The company's prizes included a first for the best exhibit of shrubs and trees, both foliage and flowering varieties; perennials, annuals and bulbs covering over 500 square feet, second for a showing of bulbous plants and first for a group of azaleas, one or more varieties, not less than thirty-six plants, staged not less than four feet above the floor.

A silver medal was awarded to the California Nursery Co., Niles, for its exhibit of shrubs and trees.

"Azaleas for the Garden" was the heading of the card in the Martin & Overlach, San Francisco, display, which won first prize for the best group of azaleas, 100 or more plants and not less than twenty-five varieties. These were massed with careful arrangement from light to dark shades and included Kurume and mollis types in a garden setting.

W. B. Clarke & Co., San Jose, had an attractive display of shrubs and trees, receiving second for rhododendrons, not less than twenty plants, staged not less than four feet above the floor, and third for their exhibit of shrubs and trees. Included in the exhibit were the new *Viburnum Burkwoodii*, a dark pink weeping cherry, Daybreak cherry, Shira-

tama, a single white cherry; *Malus Eleyi*, purple-leaved flowering crab apple, and a collection of Japanese maples.

The Charles C. Navlet Co., Oakland, was awarded first for its group of rhododendrons, not less than ten plants nor over twenty, staged not less than four feet above the floor. Bulbous and

any varieties, over fifty plants. In it was the exhibit of Joseph Proietti, San Leandro, who received a gold medal for his new unnamed seedling rose. Also in the exhibit were Golden Gleam, Golden Emblem, Ville de Paris and Texas Centennial roses. A peach tree, with other shrubs in the background and violas near the border, set off the display, which brought a third prize for an exhibit of shrubs and trees.

The T. Domoto nursery, Hayward, re-



Exhibit of California Nursery Co. at Oakland Flower Show.

other spring flowers were used attractively in a setting designed by Willa Clair Cloy, which received second prize in its group. The company was awarded second for perennial plants in bloom.

The Crombie Nursery, Berkeley, received first prize for its group of roses,

ceived first for a collection of woody plants of Asiatic origin. Included were azaleas, rhododendrons, camellias, magnolias, tree peonies and a beautiful specimen of Japanese maple.

The Leonard Coates Nurseries, San Jose, received first prize for an exhibit of shrubs and trees, both foliage and flowering varieties, combined with perennials, annuals and bulbs, covering over 350 square feet and under 450 square feet. They received third for an exhibit of rhododendrons and second for a collection of roses. In the rose display was the variety Will Rogers, a dark red rose. The garden was built with a garden seat as the center, with trees and shrubs well arranged about it.

The Sunset Nursery Co., Oakland, received first prize for an exhibit of foliage and flowering shrubs and trees, with perennials, annuals and bulbs, set in a space of not less than 200 square feet nor more than 325 square feet. Among the interesting plants in the attractive setting were pelargoniums.

PASADENA SHOW.

Changed from its traditional outdoor locale, the annual spring flower show sponsored by Pasadena Flower Show Association, Inc., was held April 1 to 3, in the more restricted and formal setting of the Civic Auditorium, Pasadena, Cal. Lovell Swisher, Jr., of the Hillside Gardens, Hollywood, and vice-president of the Southern California Horticultural Institute, managed the show.

The Edward H. Rust Nurseries, Pasadena, exhibited a corner garden. Ash trees, Japanese red-leaved maples and



Garden of Edward H. Rust Nurseries with Well Framed with Wisteria.

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BIRCHWOOD, TENN.

green trees and shrubs formed the background for a purple wisteria that hung over a rustic well, in which water dripped from an oaken bucket. Bedding arrangements of Alyssum saxatile compactum, English daisies, Primula polyantha, statice, helixine and winter marigolds were backed by callas, tulips and painted daisies. This display won a first award.

Evans & Reeves Nurseries, West Los Angeles, carried off a first award for a grouping of rare plants. Several varieties of bougainvillea attracted attention. The outdoor orchid, epidendron, was featured. Chamelaucium was another rare plant pointed out by Hugh Evans, who was on hand to answer visitors' questions. Mr. Evans had an article in the official program called "Some Facts on Taking Pains," in which he told how essential to success in gardening are the special care and treatment given plants in accordance with their individual needs.

A compact formal garden set-up, surrounded by a white picket fence, with a trellis gate, won a first award for Marsh's Nursery, Pasadena. Potted petunias topped the fence. Bordering the walks of the formal garden were potted primulas; azaleas made a background.

Coolidge Rare Plant Gardens, Pasadena, won a first award with a display of several dozen varieties of azaleas, interspersed with ash and pine greenery. This exhibit gained by its natural planting in green sod, laid flat on the floor, in contrast to other exhibits, that were raised and surrounded by curbing.

Roy F. Wilcox, Montebello, received a first award for a choice collection of unusual potted plants, grouped around a fountain setting.

Paul J. Howard's Horticultural Establishment, Los Angeles, won not only a first award but a special note of commendation by the judges for new hydrangeas, which were not only grown well, but exhibited well. The containers of the huge plants were buried in peat moss, so that the green leaves and blooms alternated in patchwork effect. Ferns and begonias were used as a border.

"Snow White and the Seven Dwarfs" came to life in the Germain Seed & Plant Co. exhibit. This was an elaborate woodland scene, in which tall trees were constructed by covering heavy lumber with natural tree bark and adding real foliage. Planted in moss were columbines, Easter lilies, hyacinths, lilies of the valley, primulas, English daisies and pansies. Cut-out wooden figures of the characters were posed about in natural effect; animal and bird cut-outs were attached to the trees and shrubbery. Sound effects were provided from recorded music from the picture. The judges commented upon the originality and execution of the motif of the exhibit.

Hahn's Pot Plant Nursery, Sierra Madre, displayed a group of fine hyacinths, daffodils and callas in a small square setting, restrained but effective. Del Amo Nurseries, Compton, won a first award with a heavily banked greenery display, showing azaleas and amaryllis.

Mordigan's Evergreen Nurseries, San Fernando, had an effective display of evergreens.

Burkard & Cole, delphinium specialists of Pasadena, had a collection of their own hybrids and products of other leading hybridists in the delphinium world. Their growing fields are at Orange Grove and Cypress avenues.

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OBITUARY.

Leonard Barron.

Leonard Barron, editor of the Flower Grower magazine and well known throughout trade circles in the east, died of pneumonia at East Hempstead, N. Y., April 9, after an illness of two weeks. Just last month Mr. Barron won the achievement medal of the New York Horticultural Society for outstanding work in horticulture.

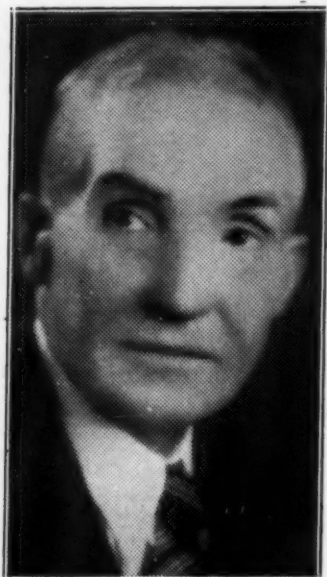
Mr. Barron was born at Chiswick, England, sixty-nine years ago. He was educated in England and came to the United States in 1893. He was author of a number of books on horticultural subjects, a lecturer of note and a judge at many flower shows. Mr. Barron was a former president of the American Rose Society and the American Delphinium Society. Before taking charge of the Flower Grower magazine, he was garden editor of the American Home magazine.

Survivors are a widow, a daughter, Mrs. Dorothy Maurice, and a son, Eric S. Barron. Funeral services were held April 12 at the Episcopal Church of the Transfiguration at New York.

James A. Kelly.

James A. Kelly, Dansville, N. Y., one of the founders of the Kelly Bros. Nurseries there, died April 2. He was 72 years of age. Born at Niagara Falls, N. Y., he worked for several nursery concerns in the east before forming the Kelly Bros. Nurseries in 1892, in partnership with his brother, William F. Kelly.

Mr. Kelly was a member of the Dansville council of the Knights of Columbus and a well known citizen of Dansville. He was a past vice-president of the New York State Nurserymen's Association. Funeral services were held April 5, with interment at the Holy Cross cemetery. Surviving him, besides his brother, William, are his widow; two sons, Richard and Clement, who are active in the nursery firm, and a daughter.



James A. Kelly.

SEEK DATA ON DAY LILIES.

The Waltham field station in coöperation with George D. Kelso, of Providence, R. I., is taking over the work of assembly and tabulation of growers' estimates of relative garden merit of the numerous varieties of day lilies.

This project, undertaken and firmly established by Mr. Kelso two years ago, is to be extended to take in the entire northeast. For this season it is proposed to determine by sampling of sufficient opinion just which hemerocallis varieties—of all types, seasons, colors, heights or sources of origin—are meeting with greatest garden appreciation. Technical differences and standards will come up for consideration in later seasons.

Any individual who will this year be in position to observe and report on not fewer than twenty-five named clones is invited to participate. Interested parties are asked to communicate with George Graves, Waltham field station, Beaver street, Waltham, Mass., who will supply details of the project and uniform blanks on which reports may be made.

PENNSYLVANIA ARBORETUM.

J. Horace McFarland, of Harrisburg, Pa., president emeritus of the American Rose Society, is father of a plan to speed the development of the arboretum at Pennsylvania State College. It is proposed to ask the 1939 state legislature for an initial appropriation and to make the arboretum a Civilian Conservation Corps project. J. Hansell French, state secretary of agriculture, has pledged his support to the plan and recently addressed the Pennsylvania Horticultural Society at Philadelphia on the subject. Spokesmen for the several groups enlisted in the movement plan to confer with Dr. Ralph D. Hetzel, president of the college, to solicit his approval of the plan.

AN INVOLUNTARY petition in bankruptcy has been filed against the Gentile Nurseries Co., 410 Avenue W., Brooklyn, N. Y.

DISPLAYS of nursery stock were made at the Detroit flower show last month by the Greening Nursery Co., Monroe; I. E. Ilgenfrits Sons Co., Monroe; Pontiac Nursery Co., Romeo, and Coryell Nursery Co., Birmingham, Mich.

ARTHUR L. WATSON, Grand Rapids, Mich., president of the Michigan Association of Nurserymen, is making good recovery from injuries received the last part of March, when a piece of machinery broke and severely cut his left arm, injuring him in the side and hips.

TREE SEED

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JUNIPERUS SCOPULORUM

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Also, *Juniperus communis* and *Juniperus horizontalis*.

The following items may be available from the 1938 seed crop: *Pinus scopulorum*, *Acer negundo*, *Fraxinus viridis*, *Amelanchier*, *Crataegus*, *Prunus americana*, *Prunus virginiana*, *Ulmus americana*, *Shepherdia argentea* and *Arctostaphylos Uva-ursi*.

E. C. MORAN
Medora, N. D.

JAP BEETLE QUARANTINE.

A revision of the Japanese beetle quarantine regulations, effective April 11, 1938, was announced last week by the Secretary of Agriculture.

The revision brings within the regulated areas for the first time a part of Schuylar county, N. Y., parts of the Ohio counties of Coshocton, Portage and Summit, and parts of the West Virginia counties of Berkeley and Jefferson. This action is considered necessary because of the establishment of the Japanese beetle therein. There were added also infested areas in New York, Pennsylvania, Ohio, Maryland and Virginia counties, parts of which were formerly under regulation. Wheeling, W. Va., and Coshocton, O., are brought under regulation and placed in the same category as Buffalo, Cleveland and other outlying cities in that a certificate or permit is required in shipping restricted fruits and vegetables to these cities, but no restrictions are placed on the interstate movement therefrom.

Shippers of produce also will find that Lancaster county, Pa., has been added to the special area from which the movement of fruits and vegetables by motor truck or refrigerator car is regulated.

Some outlying areas where Japanese beetle infestations have been found are not included because of assurance from the states concerned that adequate measures will be taken to prevent the spread of the pest from these areas.

Of interest to nurserymen is the elimination of restrictions on the movement of aquatic plants except during the period from June 15 to October 15.

Restrictions on the movement of sand are modified to exempt from certification construction sand, silica sand, greensand, marl, "bird sand," "bird gravel" and pottery clay, when free from vegetable matter and when labeled as to contents on the container.

ROBERT PYLE, president of the Conard-Pyle Co., West Grove, Pa., will embark on a European trip about the middle of May.

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Apple Seed, French Cider Crab (<i>Malus communis</i> X <i>sylvestris</i>) the best apple for stock.....	\$0.75
Chestnut, large seeded mollissima, from a hardy inland strain.....	.85
Larch, Scotch Strain, immune of the Leaf Shedding disease.....	\$1.00 3.50
PINUS RESINOSA, of excellent quality and germination.....	2.25 8.50
Spruce, White.....	.50 1.75
Spruce, excelsa, Lowland Race of Northern Europe, the preferable strain for evergreen planters in the north.....	.70 2.25
Spruce, excelsa, French strain, fastest growing, best strain for Pacific coast and the south.....	.45 1.50
Spruce excelsa, Central Europe.....	.30 .90
Spruce, Blue, collected from planted specimens of finest blue color.....	\$2.50 or 5.00

All other nursery seeds for spring planting.
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BERLIN NURSERYMAN HERE.

Dr. Helmuth Spath, Berlin, Germany, head of what is probably the oldest and one of the largest nursery establishments in Europe, has been visiting in this country for some weeks. He was the guest of the Horticultural Society of New York and the Garden Clubs of America during the recent flower show period at New York. His travels have taken him westward, and last week-end he was in Chicago, from which point he visited the establishment of the D. Hill Nursery Co., at Dundee, Ill., and the Morton Arboretum, at Lisle, Ill.

SOIL FIXATION MATERIAL.

Devised for use in all fields of soil-erosion control, Lenonet soil fixation material should be useful to nurserymen and landscape contractors in building lawns on terraces, slopes and banks, and facilitate planting on any other slope along roadsides and embankments.

Lenonet soil fixation material is an open-mesh fabric made of spun, rot-resisting paper by Bemis Bro. Bag Co. When applied to the ground, it prevents washing away of the soil until grass or other cover crops have taken hold and a tough durable sod is developed. Being particularly designed for this sort of work, it should take the place of burlap and other makeshifts. Lenonet comes in rolls of fabric forty-five inches wide and 800 yards long, making a continuous strip of 1,000 square yards. The goods are rolled on wooden cores, insuring their lying flat when placed on the ground. The rolls are securely wrapped for shipping in heavy paper, with protected cardboard coverings on the ends.

NEW WATERING DEVICE.

A new, hose-like watering device of porous canvas, open at one end only, which screws to the end of the hose in place of the sprinkler or nozzle, has many unusual advantages. Since the water seeps gently through the thousands of pores and rolls gently to the ground, without spray, there is no soil washing. Even in a wind, one can put every drop of water exactly where it is wanted. The device is also well adapted for watering narrow parkings, narrow flower beds or terraces and similar places. The waterer is easily moved without shutting off the water or getting wet.

The most important advantage is the one suggested by the name—Soil-Soaker.

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Soil-Soaker is being made in two home sizes—two inches in diameter by eighteen feet and thirty feet long, also in larger commercial sizes for nurseries, parks and golf courses. The small sizes are fitted with a regular hose connection.

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Special Mixture of Choice Seeds
5 lbs. \$1.10 25 lbs. \$5.50 100 lbs. \$21.00

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All Seed and Fertilizer Free of Fillers
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The S-W Supply Co., D. 33, Guard, Kan.

The large sizes may be had with either hose or city hydrant connection.

The device is manufactured by the Hastings Canvas Co., Hastings, Neb., under license from the Michigan State Agricultural College.

WESTERN SHADE TREE MEET.

The fifth Western Shade Tree Conference will be held April 28 and 29 at Sacramento, Cal., a city noted for its tree plantings. Although a recent gale destroyed a number of the trees there, the incident is said to have provided some especially interesting data on the causes and results of trees' blowing down and on the replanting of spots where this has occurred. The Hotel Senator will be headquarters.

Details of the tentative program that has been planned, containing many new entertainment features, have been given as follows:

APRIL 28, 8:30 A. M.
Registration at the Hotel Senator.
"The Dutch Elm Disease in the United States and Its Insect Vectors," by Dr. Curtis May and C. W. Collins, U. S. D. A., Morrisstown, N. J.
"Important Insects of the Sycamore," by Dr. H. E. Burke.

"The Penicillium Disease of Ornamental Palms," by Dr. Donald E. Bliss, citrus experimental station, Riverside.

"Diagnosis of Tree Diseases," by Willis W. Wagener, San Francisco.

"Other Species of California Cupressus as a Substitute for C. Macrocarpa," by Dr. Carl B. Wolf, of the Rancho Santa Ana Botanic Garden. Luncheon in conjunction with Lions' Club at Hotel Senator.

APRIL 28, 2 P. M.
"Studies on Susceptibility of Shade Trees to Destructive Agencies," by Dr. Aaron Gordon, of the California forest and range experiment station.
"Ten Important Eucalyptus and Their Uses," by Theodore Payne, Los Angeles.

"The Need for Municipal and County Spraying," by Frank B. Herbert.

D. B. Mackie, of the state department of agriculture.

Business session and election—members only.
"Eradication Methods for Dutch Elm Disease," by A. J. Brewster, U. S. D. A., Morris-town, N. J.

APRIL 28, 7 P. M.
Banquet—Hotel Senator, with entertainment by the Sacramento convention ensemble, courtesy Sacramento convention bureau. L. D. Tilton, state regional planning director, will talk on "City Planning and the Tree." Motion picture by Los Angeles park department in sound and color: "A Tour of Los Angeles Beauty Spots."

APRIL 29, 10 A. M.
"The Use of Trees and Shrubs in Erosion Control," by T. B. Blair, soil conservation service, Santa Paula. Discussion leader, H. Dana Bowers, state landscape engineer of California.

"Tree Planting Problems in Large and Small Communities," by Fred Roewekamp, park engineer, Los Angeles park department. Discussion leader, Edgar M. Sanborn, park forester, Oakland park department.

Round-table discussion on the subject of preparing a bill for the next session of the legislature to regulate arboriculture in California.

Luncheon—Hotel Senator. Motion picture, courtesy Peck & Wadsworth: "Going Places with Trees."

Officers of the Western Shade Tree Conference are: Frederick N. Evans, president, and Edward H. Scanlon, executive secretary. In charge of local arrangements is H. Dana Bowers.

DIMM SAILS FOR EUROPE.

Walter R. Dimm, secretary-treasurer of the Pacific Coast Association of Nurserymen, sailed from New York, April 14, aboard the steamer Europa to visit some of the European flower shows.

One of the most important shows on his itinerary is the show at Ghent, Belgium, April 18 to 24. He will also visit the tulip fields of Holland, the Italian test gardens at Rome, the flower show at Paris and the Chelsea show at London, the last-named being the largest in Europe.

Mr. Dimm expects to take about 2,000 feet of colored film. He is a member of the firm of Sweeney, Straub & Dimm, horticultural printers, Portland, Ore.

Long known for their berries and rhubarb, the Wagner Nurseries, Pasadena, Cal., have been taken over by the Colby Nurseries of that city. Mr. Wagner will continue growing fruit trees for the wholesale trade.

ROSE PLANTING IN OREGON.

Nurserymen of Oregon have recently completed the planting of approximately 4,000,000 rose cuttings for 2-year-old plants, including baby roses for the greenhouse trade. The majority of these cuttings are multiflora japonica.

They have also planted nearly 3,000,000 small multiflora japonica for rooted cuttings to be grown one year and sold to eastern trade for budding stock, and 1,500,000 Manetti cuttings to be grown for the florists' trade for grafting purposes.

This is a normal planting, and with the cool weather maintained since planting, an average or better than average stand is insured.

All budded stock has been uncovered, and because of the mild winter there is little loss from frost. From such an excellent stand of buds, Oregon nurserymen expect to ship about 2,500,000 2-year-old roses from this territory during the autumn of 1938 and spring of 1939. The majority of this crop will find its way to the east to fill demands there for sturdy roses of high quality.

Oregon roses are not irrigated, and with the cool climate they make a slow, steady growth which in the autumn matures thoroughly.

There is a feeling among the pioneers of the rose trade in Oregon that quality roses at a fair price will take the place of inferior roses at a cheap price.

CLASSIFIED ADVERTISING

Cherry Laurel Seed, fresh crop, 25c per lb.
Ivan L. Butler Nursery, Forest Hill, La.

Peonies: Tree and Herbaceous, best varieties.
Oberlin Peony Gardens, Sinking Springs, Pa.

Aucuba Japonica Variegata,
2½-in. pots, well established, 7½c each.
Goldsboro Nursery, Goldsboro, N. C.

Hemlock, Jack, White, Norway and Scotch
Pine, up to 12 ft. Honey Locust, Oak, Moline
Elm. Elmgrove Nursery, Leesville, Mich.

Fine Quality Wood Labels, all sizes, plain,
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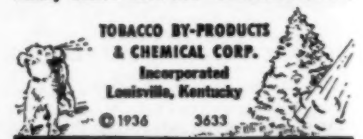
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CATALOGUES RECEIVED.

[In writing for a copy of any of the catalogues reviewed below, please mention that you saw it described in The American Nurseryman.]

Naperville Nurseries, Inc., Naperville, Ill.—Catalogue as wholesale trade list of trees, evergreen shrubs, roses, vines, perennials, fruits, small fruits, rhubarb and asparagus. There are photographic illustrations. A companion booklet, identical as to cover, illustrations and copy, gives retail prices and is titled "1938 General Price List."

H. J. Zack Co., Deep River, Conn.—Printed folder as wholesale price list of evergreens, including hardy heather and several evonymus varieties.

W. A. Natorp Co., Cincinnati, O.—Evergreen trees and shrubs, shade trees, ornamental and flowering trees, deciduous shrubs, vines, roses, perennial plants, water lilies, fruit trees and hedge plants are the classifications under which the stock offered in a thick little booklet is grouped. Also handled are the firm's own brand of plant food and various landscaping materials.

George L. Ehrie, Clifton, N. J.—Day lilies and Phlox decussata are each offered, among other genera, in great variety in a comprehensive list of perennials. Also listed are azaleas and a number of other shrubs.

Hillside Gardens, Amesbury, Mass.—Hemerocallis, oriental poppies, hardy phloxes and astilbe hybrids are the only genera listed in a printed folder, which mentions that the firm also carries perennials, rock plants, lilies, peonies and evergreens.

Wiener Nursery, Sauk Center, Minn.—Hardy shrubs, ornamental trees, shade trees, fruits and berries, roses, peonies, perennials, evergreens, bedding and windbreak trees are offered in the twenty-four pages of "Wiener's Plant Book." Among the shrubs are caragana and flowering crabs, two varieties of the latter being lately developed at the University of Minnesota. Among trees the corkscrew willow, originally from Russia, is new.

Rocknoll Nursery, Foster, O.—"New Plants for 1938" is an illustrated folder, part printed in color, offering, among other novelties, Sweet Vivid rose, a Rocknoll introduction, and Nierembergia Hippomanica.

I. W. Scott Co., Pittsburgh, Pa.—Seeds of vegetables and flowers, bulbs, roses, shrubs and perennial plants occupy about a third of a 144-page catalogue. The rest is devoted to field seeds and a multiplicity of farm supplies and equipment.

Bobbink & Atkins, Rutherford, N. J.—Named hybrid rhododendrons are given special mention in a pocket-size catalogue of eighty-eight pages devoted to nursery stock. Evergreens are listed first, including the upright yew; then come broad-leaved shrubs, and a considerable variety of hardy azaleas. There are offers of ornamental and shade trees and a generous listing of magnolias. Japanese flowering cherries are given prominence.

Tingle Nursery Co., Pittsboro, Md.—All but five pages of a 24-page catalogue are devoted to strawberries, with pictures, descriptions, prices and culture. The rest of the booklet presents fruit trees and raspberries, grapevines and asparagus roots. A second catalogue, pocket-size, gives wholesale rates for hardy plants, among them a number of chrysanthemums and heathers; boxwood, blueberries, Daphne Genkwa, Pieris japonica, sweet corn, strawberries, plants and azaleas—the last named embracing new varieties of the U. S. D. A.

Shifferly Nursery, Orrville, O.—Printed folder presenting roses and fruit trees, also a few ornamental shrubs and trees.

Westminster Nurseries, Westminster, Md.—With an index, this 48-page wholesale catalogue offers evergreens, broad-leaved evergreens, deciduous and flowering trees, nut trees, deciduous shrubs, vines, roses, perennials, lining-out stock and fruit trees. Enchanting pictures in color and in black and white appear in the firm's retail catalogue, which is indexed and also contains lists of plants for different situations and orchard planting suggestions.

Mount Arber Nurseries, Shenandoah, Ia.—Wholesale bulletin, dated April 2, offers stock of fruits, small fruits, roses, deciduous trees, ornamental shrubs, vines, evergreens, peonies, lilies, perennials and spring bulbs. The booklet, of sixty-eight pages, contains an index. An inclosure presents a patented "Aerotop" display case for packaged nursery stock.

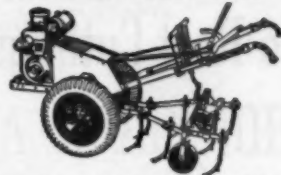
Littlefield-Wyman Nurseries, North Abington, Mass.—Pocket-size retail catalogue of evergreen trees and shrubs, rhododendrons, deciduous trees, flowering crabs and cherries, other deciduous shrubs, azaleas, lilies, perennials, hardy ferns, fruits and small fruits, vines and roses. There are illustrations, an index and a road map of the region about North Abington.

Kramer Bros. Nurseries, Ontario, Cal.—Illustrated with fine photographs and excellent color work is this wholesale trade list of Iris ochroleuca, camellias, gerberas, acacia, chrysanthemums, stressing new Pacific coast varieties: frezias, geranium cuttings, ranunculi, anemones and pansy seeds.

Fulmer Gardens, Seattle, Wash.—Included in new dahlias offered in a booklet listing dahlia and gladioli is a dark red formal decorative called Bellevue It or Not, so-named, says the firm, "Because it is possible to cut two distinctly different bouquets off the same variety."

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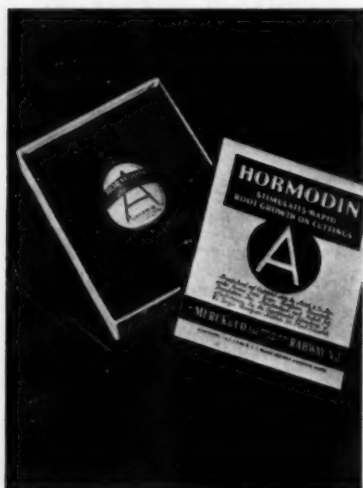
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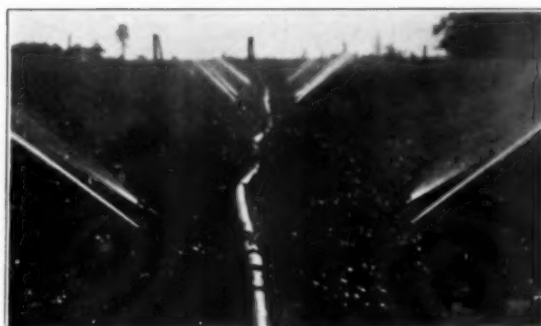
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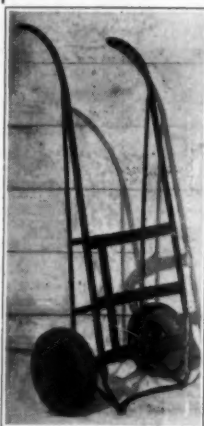
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